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EDITORIAL.

ON page 95 of our March number, we spoke of the recent acquisition by the College of Pharmacy of a building in one of the most accessible parts of the city, and of its conversion from a church edifice into a form better adapted to the requirements of the institution. The necessary alterations and additions have now so far progressed towards completion that we are able to present our readers with illustrations (pages 130 and 131) of its future appearance and arrangement.

The building is on Twenty-third Street, a few doors eastward of Third Avenue, on the north side (Nos. 209 and 211), and covers a space 96x40 feet, in addition to openings on either side which separate it from adjoining structures.

A story has been added in height, and the front has been sufficiently altered to remove the most pronounced ecclesiastical features, and give it more agreeable proportions.

The plan of the main floor, and the section from front to rear, will give a good idea of the ample capacity of the building, and the mode in which it has been adapted to college purposes. Either of its lecture rooms will be amply sufficient for four hundred students; and we hope it will not be long before they are crowded.

The proximity of ferries, steamboat landings, elevated and street railways, and medical and and literary colleges, and the central location as regards other parts of the city, render the site one of the most favorable that could been have selected, and the trustees are entitled to many congratulations upon their success in obtaining it.

No occasion could be better than this for giving a few reminiscences of the history of the institution, and we are fortunate in having in this the assistance of Mr. Geo. D. Coggeshall, one of the original founders, who, with a few others, devoted years of labor and considerable sums of money to furthering the welfare of the College.

On the 18th of March, 1829, a number of physicians and druggists doing business in New York held the first formal meeting for the organization of the College of Pharmacy of the City of New York; their intention being to establish a school which should afford means for the better education of druggists' apprentices.

Previous to this, two informal meetings had taken place, of which no accurate minutes are in existence, but it is known that Henry T. Kiersted, now the oldest apothecary in New York, and the late Dr. John Stearns, well known as the introducer of ergot into obstetric practice, were among the persons present; the latter being the first mover in the enterprise. The records of the first formal meeting name the following as among the most prominent of the founders: John D. Keese, Oliver Hull, Henry T. Kiersted, Patrick Dickie, Constantine Adamson, James H. Hart, James C. Haviland, Henry H. Schieffelin, Lindley Murray, John Torrey. M.D., LL.D., Stephen Brown, M.D., John Carle, Jr., Geo. D. Coggeshall, Geo. N. Lawrence, James S. Aspinwall, Wm. L. Rushton, Wm. J. Olliffe, Wm. H. Milnor, Paul H. Lalouette and John Milhau.

During the winter, the first course of lectures in the "The School of Pharmacy," as it was called, was given by Dr. John Torrey, on Chemistry, and Dr. Stephen Brown, on Materia Medica. For several years after its organization, the school used rooms in the New York Dispensary. At another time, a room in the City Hall is said to have been occupied by it; later, a room on Broadway near Reade Street, and still another, also on Broadway, near Lispenard Street, over the Book-store of Roe Lockwood. From the last-mentioned place, the school was moved to a room at 511 Broadway, over Mackim's Drug Store (where the St. Nicholas Hotel now stands). It was in this room, and during its occupance by the College, that the first convention was held, in October, 1851, out of which the American Pharmaceutical Association resulted.

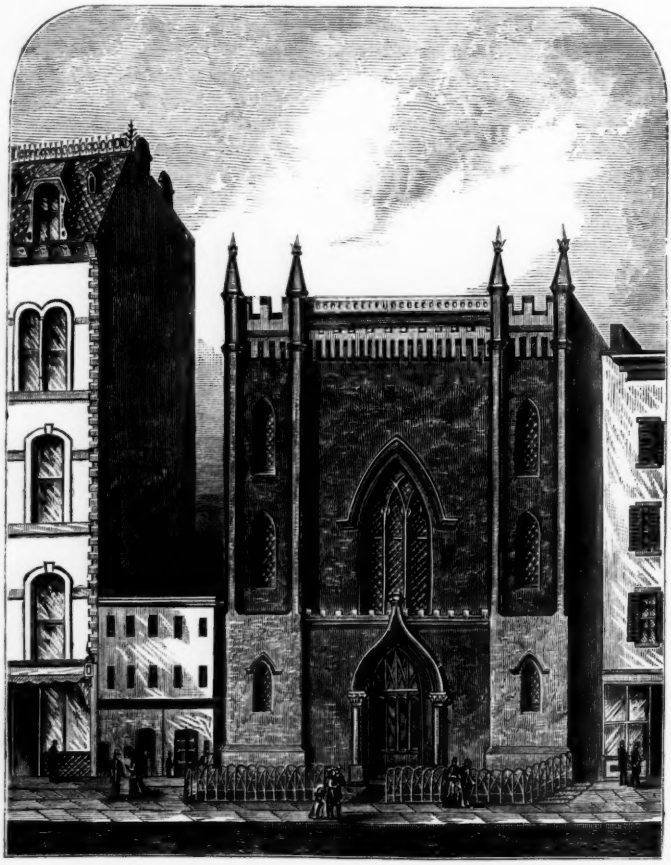
The history of this movement, as given in a pamphlet published by the College, is as follows:

"Owing to the wretched character of many of the drugs received in this port from abroad, the College, early in 1848, directed attention to the serious injury resulting from the use of such medicines, and Mr. John Milhau pioneered the movement which resulted in securing the passage of a law through Congress in that year which prohibited drugs from being admitted into this

country from abroad without passing an examination as to their quality.

"In enforcing this law, it was found that the examiners at the various ports had different views as to the quality which should admit the article as satisfactory, and the Secretary of the Treasury addressed this College in reference to proper uniform standards of quality, by which all the drug examiners should be guided.

"In carrying out the wishes of the government, it was decided to consult with the other Colleges of Pharmacy, and in 1851 a call was issued by this College requesting their co-operation, and that they send delegates to attend a meeting for that purpose. Such a meeting was held in this city, October 15th and 16th, 1851, delegates being present from the Colleges of Pharmacy in Boston, Philadelphia, and this city; the delegates appointed by the Maryland and Cincinnati Colleges sent communications, but were unable to be present. After accomplishing the object for which they met, viz.: the establishment of some uniform rules for the admission of foreign drugs and chemicals, those present proposed to meet again in larger numbers in 1852, in Philadelphia." The meeting of October 15th was called by public notice at the "Shakspeare," kept by John C. Stoneall (and as often as otherwise called "Stoneall's") at the corner of Fulton and Nassau sts., where the *Commercial Advertiser* office now is. The building was famous as a place for the better class of public and social meetings of the day. John D. Keese, of the old and honorable firm of Lawrence, Keese & Co., presided.

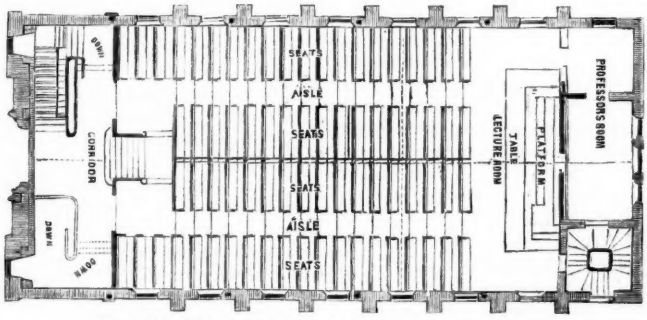


The New Building of the College of Pharmacy of the City of New York.

In 1839, a law was passed which has been incorrectly reported as having been an amendment of the College charter, but which was, in fact, a law to prevent incompetent persons from thereafter commencing and practising the business of an apothecary, etc. This law was, however, never enforced, because the District Attorney would not prosecute offenders. Later, errors were discovered to exist in the way in which it

had been worded. Then it was amended so that these were eliminated, and still later it was dropped altogether.

Shortly after the College was chartered, it was decided to procure a site for a building, and a piece of ground, on the corner of Grand and Elizabeth Streets, was accordingly purchased, but no building was ever erected, and when the College left 511 Broadway, it next found rooms in the New York Medical College Building, in Thirteenth Street. Here it remained until 1862, when it was again removed; this time to the University Building on Washington Square, where it has until now remained.



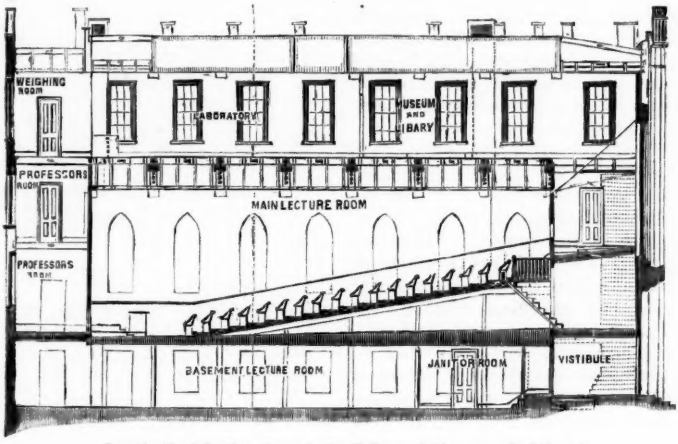
Plan of the Main Floor of the College of Pharmacy Building.

The original charter was to have expired in 1856, but previous to this event the friends of the College procured the passage of an act which extended it indefinitely. This was not done, however, without opposition on the part of those who wished to compel a distribution of the College property, and who, by their actions, engaged the College in a law suit, which was finally terminated in favor of the school, but involved expenses and labor that for a time nearly put an end to its usefulness.

From its organization until 1867, the expenses of the College always exceeded its income. Since that period, however, it has become more than self-supporting.

In 1872, an Act of the Legislature placed the control of the practice of pharmacy in the hands of the College, and since that period the Board of Pharmacy have been elected from among its members.

Thus from a small school held in the rooms of a city dispensary, the College of Pharmacy has,



Longitudinal Section through the College of Pharmacy Building.

in fifty years, steadily grown until it is now enabled, out of its savings and through the generous contributions of its friends, to become the owner of a house of its own, free from debt, and with a corps of instructors and materials for teaching which cannot be surpassed in this country, and of which its alumni and early friends may well be proud.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

CO-OPERATIVE EXPERIMENTS ON FLUID EXTRACTS.

BY C. LEWIS DIEHL.

Chairman of Sub-committee on Fluid Extracts.

SINCE my last communication to the chairman of the Pharmacopœia Committee of the American Pharmaceutical Association, I have been engaged in perfecting a "scheme" which, in my opinion, is calculated to secure a large amount of valuable information towards solving the fluid extract "problem" by the time the Association meets in Atlanta. I regret that my time should have been so limited during the winter as to preclude the possibility of an earlier communication on this subject, and that thereby earlier co-operation—which I propose to invite through this communication—should have been prevented. Still, if my communication will be the means of enlisting the members of the committee generally to furnish data according to the proposed scheme, sufficient material will accumulate by the time of the next meeting to justify the forming of suitable and definite formulas for the meeting of 1879.

The object being singly to collect reliable data upon which to base formulas for the fluid extracts, my personal views on the subject, as communicated some time ago (NEW REM., vol. vi., p. 343) need form no feature in this connection; although, for future guidance, it would be desirable to have a free expression of opinion on this subject from all who may take an interest in the improvement on the present formulas.

The "scheme" entails no serious extra labor or expense on those who are disposed to aid the chairman of the sub-committee. It simply necessitates that, when making fluid extracts, as occasion may require in the ordinary course of business, the process for their preparation be modified so as to conform to one of the general processes given below: avoiding the use of glycerin or other extraneous non-volatile substance in their preparation whenever this is practicable, and changing the alcoholic strength of the menstruum, whenever this is necessary or expedient, in order to conform it to that used in making the corresponding tincture, syrup, extract, etc. It necessitates the accurate determination of measurements of volume and of weight; of specific gravities and of residues of evaporation; requires accurate record of the observations to be kept, and requires the reservation of a portion of the original powdered drug, of the exhausted drug, of the fluid extract, and of a tincture prepared from the same drug by maceration. The question of weight or volume, in reference to the final quantity of fluid extract, does not enter into this "scheme" at present except in so far as the specific gravities of the products obtained may serve as a guide in the framing of formulas.

With the preliminary remarks I submit the following:

SCHEME FOR CO-OPERATIVE EXPERIMENTS ON FLUID EXTRACTS.

I. THE EXTRACTION OF THE DRUG.

A. Simple Percolation.—16 troy ounces of the properly powdered drug are moistened with sufficient menstruum to cause the powder to cake together into an adhering mass when pressed in the hand, and yet to permit it to be passed through a coarse sieve (No. 18 or No. 20); the whole of the moistened and sifted material is then placed in a glass percolator, the orifice of which is stopped with raw cotton, well shaken down, and when shaken down as uniformly as possible, it is pressed evenly and firmly. A disc of filtering paper is placed on the surface, a flat (mushroom-shaped) stopper is placed on the centre of the paper disc, and the menstruum is poured on through a funnel nearly touching the stopper. As soon as the percolate begins to permeate the cotton stopper, the orifice is securely closed by a cork, allowed to remain so for 24 to 36 hours, and then the following percolates are separately obtained:

12	fluid-ounces,	which	is	marked	No. 1 (reserve).
12	"	"	"	"	2
12	"	"	"	"	3
12	"	"	"	"	4

Then the residue is expressed, the liquid filtered, and marked No. 5.

B. Fractional Percolation.—*a.* 8 troy-ounces of the drug are packed into the percolator precisely as in *A*; after standing 24 to 36 hours, the following percolates are separately obtained:

4	fluid-ounces,	which	is	marked	No. 1*a* (reserve).
4	"	"	"	"	2*a*
4	"	"	"	"	3*a*
4	"	"	"	"	4*a*
4	"	"	"	"	5*a*
4	"	"	"	"	6*a*

Then the residue is expressed, the liquid filtered, and marked No. 7*a*.

b. 8 troy ounces of the same drug are treated as under *a*, using for the moistening of the powder and the subsequent percolation, successively the percolates Nos. 2*a*, 3*a*, 4*a*, 5*a*, 6*a*, and the expressed portion No. 7*a*, followed by sufficient of the original menstruum to secure the following percolates:

4	fluid-ounces,	which	is	marked	No. 1*b* (reserve).
4	"	"	"	"	2*b* (reserve).
4	"	"	"	"	3*b*
4	"	"	"	"	4*b*
4	"	"	"	"	5*b*
4	"	"	"	"	6*b*

Then the residue is expressed, the liquid filtered, and marked No. 7*b*.

II. The Determination of the Extracted Matter.

2 cc. of each of the percolates and expressed liquids obtained by either of the processes given under I. are carefully measured into a capsule (or a watch-glass), and evaporated on a water-bath to complete dryness, or until it no longer loses weight. The capsule—with contents—is then balanced on a delicate balance, the contents are removed by washing, it is dried, heated for a short time on a water-bath, replaced on the scale-pan, and the equilibrium of the balance is restored by accurate weights; the sum of the latter gives the weight of the "extracted matter" contained in 2 cc. of the particular percolate under examination, which sum, when multiplied

by	14.76	gives	quantity	contained	in	1	fluid-ounce.
"	29.52	"	"	"	"	2	" "
"	59.05	"	"	"	"	4	" "
"	118.125	"	"	"	"	8	" "
"	177.20	"	"	"	"	12	" "
"	236.25	"	"	"	"	16	" "

It will be observed that, in carrying out the determinations of the "extracted matter" according to the above directions, any essential oil or other volatile component present is sacrificed, and not represented in the result. This would be a radical error if the determination were intended to ascertain the quality of the drug used, but is of no consequence in these experiments, for the following reasons:

(1.) The determinations of extracted matter are mainly intended to determine the degree of completeness with which the drug is represented in the consecutive portions of percolate obtained.

(2.) The volatile components of vegetable drugs are usually dissolved with greater facility than their non-volatile components, and are therefore, in all probability, represented practically in the reserved portions of the percolates.

(3.) Before the final determination of the formula, controlling experiments must be made in all cases that admit of reasonable doubt.

Some drugs yield such large quantities of "extracted matter" that, even with the small quantities of percolate (2 cc.) subjected to evaporation, it is difficult to evaporate to complete dryness at a moderate heat, unless it be very much prolonged. Moreover, the first portions of percolates are, as a rule, much denser than the following portions, so that the last portions are dry long before the first. It is therefore advisable to reduce the 2 cc. of the first (and, under circumstances, also the second) percolate to 16 cc., and to evaporate 2 cc. of this mixture along with the other percolates; by multiplying the ascertained weight by 8, the weight of "extracted matter" in 2 cc. of the original percolate is obtained.

Furthermore, the evaporation of a single set of percolates should be conducted at one and the same time and under identical conditions. In the absence of a regular water-oven, a tin vessel containing water and covered with a tin plate, upon which the capsules—or watch-glasses—are placed, will answer admirably.

III. Application of the Determinations Made.

The old processes for making fluid extracts suffer from the fact that no provision is made for restoring the alcoholic strength of the "evaporated portion" to its normal condition, in those cases in which either diluted alcohol or a mixture of alcohol and water are directed. When hydro-alcoholic solutions are evaporated, the evaporation of alcohol and water is unequal, and water alone remains after a time with the dissolved matter. This, in its bearings on the old processes for fluid extracts, is a radical fault, and one that is often the cause of the precipitation observed in these preparations—whether of active matter or not is no part of the present inquiry. The absolutely accurate restoration of the solvent to its normal condition is practically impossible, but it is possible to approximate to it very nearly, by the aid of the determinations of "extracted matter" made.

A. *Application to Process of Simple Percolation.*—The amount of "extracted matter" in percolates Nos. 2, 3, 4, and the expressed portion No. 5, being determined, its volume is approximately calculated, by allowing *one minim* for each *one grain* found. The calculated volume is then deducted from 4 fluid-ounces—the volume to which the percolates are to be brought before addition to the reserved portion (No. 1). The volume of water required to restore the remaining portion of the 4 fluid-ounces, with the addition of alcohol U. S. P., to its original strength, is next ascertained, and the united percolates are then evaporated to this volume, plus the calculated volume of "extracted matter;" finally, alcohol U. S. P. is added to make the liquid measure 4 fluid-ounces.

Suppose, for example, that the united weight of "extracted matter" in the portions 2, 3, 4, and 5 is 240 grains, and that the menstruum used is diluted alcohol, 240 minims=*one-half* fluid-ounce, would then be deducted from *four* fluid-ounces, leaving *three and one-half* fluid-ounces to be restored to the original strength of the diluted alcohol; one-half of this (approximately) is water; consequently, the united percolates have to be evaporated to $1\frac{3}{4}+\frac{1}{2}=2\frac{1}{4}$ fluid ounces, and brought to the measure of *four* fluid-ounces by the addition of *one and three-fourths* fluid-ounces of alcohol U. S. P.

B. *Application to the Process of Fractional Percolation.*—This is, of course, the same as to the process of "simple percolation;" the united weight of "extracted matter" in the percolate No. 3*b*, 4*b*, 5*b*, 6*b*, and the expressed portion 7*b* being ascertained in the same way, and, when brought to the proper condition and volume, added to the previously mixed reserved portions (Nos. 1*a*, 1*b*, and 2*b*).

C. *General Application.*—The determinations

of the "extracted matter" permit of varied application in connection with the final solution the fluid extract "problem."

a. An insight is gained into the facility—be it greater or less—with which the drug is extracted by the particular menstruum employed.

It is true that the quality of "extracted matter" yielded is not absolutely a criterion of the degree in which the drug is being exhausted of its active constituent; but it nevertheless affords a good basis for judgment, while any doubt as to the practical exhaustion of the drug may be settled by appropriate examinations of the reserved portions of the original and of the percolated drug.

b. The united quantity of "extracted matter" determined in all of the percolates from the drug, gives the quantity that should be contained in the finished fluid extract.

In the process of extraction by "simple percolation," percolate No. 1 is reserved; the others being concentrated and added to the reserved portion. Simple addition of the total quantities of "extracted matter" in each portion is, therefore, all that is necessary. In the second process of extraction, however, that of "fractional percolation," two distinct sets of percolates are obtained: percolates Nos. 1*a*, 1*b*, and 2*b* being reserved, and constituting with percolates 3*b*, 4*b*, 5*b*, 6*b*, and the expressed portion 7*b*, the set that corresponds to that of "simple percolation;" whilst 2*a*, 3*a*, 4*a*, 5*a*, 6*a*, and 7*a* are consumed in the percolation of the second portion of the same drug. The determination of the extracted matter in these portions, however, is important, since it determines in how far these percolates are capable of extracting a fresh quantity of drug. Thus, percolate No. 2*a* is contained in No. 1*b*, which should therefore contain as much "extracted matter" as Nos. 1*a* and 2*a* together, if the extraction has been perfect; No. 2*b* as much as Nos. 2*a* and 3*a*; No. 3*b* as much as Nos. 3*a* and 4*a*, etc., etc.

c. The fractional determinations of the "extracted matter" furnishes admirable data upon which to base the period beyond which it is wasteful or inexpedient to continue the percolation; it also affords valuable data for general reference.

IV. Methods of Control.

The numerous weighings necessary in determining the quantities of "extracted matter" in the fractions of percolate make it probable that some errors should creep in, in rendering the total quantities. To control this, a portion of the finished fluid extract is diluted to 8 times its volume with sufficient of the original menstruum, and the "extracted matter" in cc. of this dilut-

TABULATED RECORD OF EXPER

MADE BY

(Showing the results actually obtained in

Number.	Date.	Drug. Name.	Drug. Quantity. Troy ounce.	Drug. Fineness of Powder. Number.	Menstruum. Proportion of Alcohol and Water. Alcohol (if fortior—1).	Menstruum. Proportion of Alcohol and Water. Water.	The Process. Spec. grav. at 60 degrees F.	Simple Percolation. Weight of residue of evaporation of 2 cc. of each percolate grains. No. 1	No. 2	No. 3	No. 4	No. 5	Fractional Percolation. Fraction A. Weight of residue of evaporation of 2 cc. of each percolate—grains. No. 1*a*	No. 2*a*	No. 3*a*	No. 4*a*	No. 5*a*	No. 6*a*	No. 7*a*	Fraction B. Weight of residue of evaporation of 2 cc. of each percolate—grains. No. 1*b*	No. 2*b*	No. 3*b*	No. 4*b*	No. 5*b*	No. 6*b*	No. 7*b*
1	Jan. 5, '78.	Ergot.	64	40	1	1	0.941	.....	.....	.....	.....	.....	5.5	2.0625	0.6085	0.240	0.1875	0.1565	.....	7.125	2.5	0.9375	0.5315	.3 125	0.1250	.....
2	Mar. 4, '78.	Cubeb	16	40	1 (f.)	0	0.820	4.187	0.7812	0 1875	0.0781	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

* These results show the importance of the controlling experiments proposed; the fractions of grains are obtained by converting 32ds and 64ths

ed fluid extract is determined as in the cases before mentioned.

It is important also that the practically complete exhaustion of the drug be verified. To do this by continuing the percolation beyond a certain point, is, to say the least, wasteful; to exhaust a separate portion by percolation entails an amount of extra trouble, which should, if possible be avoided. The simplest method, and one which should answer every purpose, consists in preparing a tincture by the old-time method of maceration: 60 grains of the powdered drug being macerated in 1 fluid-ounce of the menstruum, with frequent agitation for two weeks; after which it is allowed to settle clear, and the "extracted matter" is determined as in the case of the fluid extract.

For further purposes of control, it is necessary that each experimenter reserve the following:—

(1.) A portion of the powder from which the fluid extract is made.

(2.) A portion of the powder which has been subjected to percolation by one of the processes named. In case "fractional percolation" has been resorted to, it is necessary to reserve a portion of each fraction.

(3.) A portion of the finished fluid extract, the specific gravity of which should be determined.

(4.) The tincture (prepared as above mentioned, by maceration), without removing the dregs.

V. General Rules.

To secure practical co-operation, it is necessary that the experiment shall be made under as nearly identical condition as is possible. To this end, the following rules should be observed.

(1.) *The Condition of the Drug.*—The drug should be a good commercial specimen, free from all extraneous matters, and carefully garbled if it occurs associated with parts of plants, etc., not strictly belonging to it.

It should be—air-dry—reduced to a uniform powder, by passing it though a sieve of at least 40 meshes to the linear inch, and may, under circumstances, but need not, exceed a fineness of 60 meshes. The quantity powdered should be in excess of that required for the fluid extract.

(2.) *The Weights and Measures.*—The accuracy of the weights and measures should be verified.

I have graduated for my own use several sets of bottles, varying in total capacity from 4 to 16 fluid-ounces, and graduated in progressive quantities of 1, 2, 3, and 4 fluid-ounces (selecting tall, narrow, and regular-shaped bottles), to suit greater or lesser quantities of fluid extract. The weight of a fluid-ounce of distilled water, at 60° F., is that adopted by Dr. Pile, viz.: 455.669 grains.

(3.) *The Menstrua.*— The selection of the menstruum for each fluid extract must, of necessity, be left to each experimenter. Glycerin as a solvent, and the addition of sugar to the fluid extract, should be avoided, unless their presence is absolutely necessary, in which event, however, the above experiments cannot be made with the particular fluid extract. In selecting the menstruum, the experimenter will of course be guided by his knowledge and experience. Where these fail him, and there appears to be necessity for a change in the alcoholic strength of the present preparation, the papers published from time to time in the proceedings of the Am. Pharm. Association (vols. X., p. 76; XI., pp. 64, 222; XII., pp. 81, 286; XIII., p. 106; XV., p. 155; XVI., p. 157; XVII., p. 146, and numerous others), and among these notably the essay of the late Prof. Wm. Proctor, Jr. (XI., p. 222), will afford material aid in such determination.

Under all circumstances the whole quantity of menstruum required for the fluid extract should be prepared at once, and its specific gravity should be carefully determined and recorded.

(4.) *The Percolation.*—The quantity of menstruum required for moistening the powdered drugs, preparatory to packing them in the percolator, is so variable that no definite quantity can be specified. The powder should be moistened to such a degree that, when it is pressed between the hands, it will form an adhering but friable lump. To secure an equal distribution of the moisture, it should be passed through a coarse sieve (No. 18 or No. 20) on a sheet of stiff paper, from which the whole quantity is then at once poured into the percolator. After thoroughly

IMENTS ON FLUID EXTRACTS,

N—— N——.

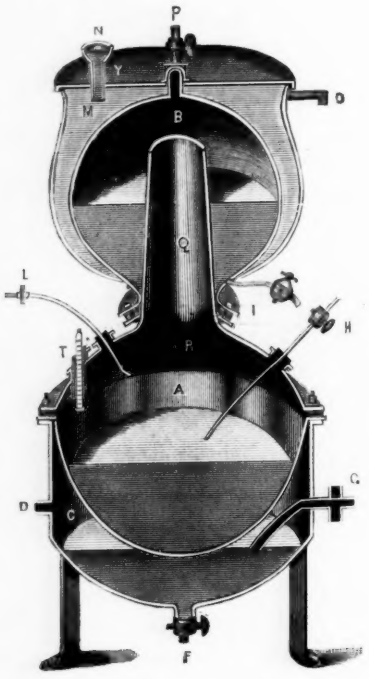
two instances by the processes named.*)

Calculation of the total amount of "extracted matter" in one pint.					The finished fluid extract.				The Tincture.				Remarks.
In reserved portion or portions.	In evaporated portions.	Relation. Reser'd portion.	Relation. Evap'd portion.	Total in 1 pint fluid extract.	Quantity of "extracted matter" in 2 cc.	Quantity of "extracted matter" in 1 pint.	Specific gravity at 60° F.	Percentage of the drug extracted in 1 pint.	Quantity of "extracted matter" in 2 cc.	Quantity of "extracted matter" corresponding to 1 pint fluid extr.	Relation of "extr. matter" in the tinct. to that in the fluid extract.		
grains	grains			grains	grains.	grains.			grains	grains	Tinct.	Fl. ex.	
793.	112.5	7.	1.	906.	4.	935	1.006	12.02	0.53125	1004.	1.072	1.	Added f ʒ i. acet. acid to the evaporating percolates for each pint of fluid extract.
742.25	185.5	4.	1.	928.	2.75	650	0.885	8.45	0.34375	650	1.	1.	Percolate No. 1, as well as the others, had not been diluted before evaporating to determine the "extracted matter."
. ....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

grains into decimals.

shaking down the powder, which is best done by thumping the percolator on a hard surface, it is pressed evenly and firmly with the hand or a pestle; the degree of pressure being regulated by the nature of the drug, although, as a rule, it can be quite strong. When operating with 16 troy ounces of the drug, the percolate should not pass faster than 60 drops a minute, and in the event that the packing has not been firm enough, should be regulated by the aid of a cork.

(5.) *The Record of Experiments and Results.*—This should be presented at the meeting of the Association in Atlanta, together with the "reserved portions" mentioned under V. (methods of control), and such remarks as may be deemed appropriate or necessary. The keeping of the "record" will be greatly facilitated if the annexed tabulated form is adopted.



Lentz' Vacuum Apparatus.

For the distillation of alcohol at low temperatures, the apparatus designed by Lentz,* and much used in German pharmaceutical laboratories, is very convenient. The annexed illustration will aid us in describing it correctly. It is mainly constructed of sheet-copper, of a thickness of about 2.5 mm. The flanges and the three legs upon which it stands, are made of iron; the packing between the flanges consists of rubber. The steam-chamber *d, c, f*, has three openings: *g* being the steam-inlet, *d* the outlet, and *f* a stopcock for drawing off the excess of condensed water. [This may be simplified by omitting *d*, and making the outlet at *f*.] Into this steam-jacket is placed the tinned copper-boiler *a*, which receives the charge of the liquid to be distilled. The whole is surmounted by the still-head *q r*, and the three flanges are made tight at the same time by rubber-packing. The head has several tubulures, *t* being intended to receive a thermometer, *l* a small steam-pipe for expelling the atmospheric air contained within by means of a jet of steam, and *h* being a tube for refilling the boiler *a* with fresh portions of the liquid. Upon two nearly opposite sides of the head, two small windows are fitted into the head, by means of which the process of evaporation within the boiler may be watched. This is best done by holding a bright light guarded by a screen over one window, and looking down through the other. The still-head is further surmounted by the condensing vessel, *b*, which is joined water-tight to the head by means of the flanges at the neck. This condenser is a double-walled copper-vessel, provided with four openings, *p* and *i* passing entirely through both walls of the vessel, and communicating with the interior, while *n* and *o* are the inlet and outlet, respectively, of the condensing water. Whenever the amount of condensed alcohol, etc., surrounding the upright still-head requires removal, the faucet at *p* is opened to admit air, and the liquid is drawn off at *i*.

When using the apparatus, the various parts are joined together as shown in the figure, the faucet *p* is opened, and a sufficient charge run into the boiler *a* by means of the tube *h*. Steam is now turned on at *g*, and as soon as the thermometer indicates a temperature of 60° C. (140° F.), a jet of steam is injected over the surface of the liquid in the boiler through the pipe *l*, until steam escapes briskly at *p*. This causes the removal of atmospheric air within the apparatus; but the same effect may be produced by connecting the faucet *p* with a good air-pump. All openings having been closed, cold water is passed into the condenser, and the steam at *g* being kept up, rapid condensation of the volatile vapors, at a reduced pressure and temperature, takes place. When a new charge is to be introduced, the condensing water is allowed to run off, and the apparatus filled, exhausted of air and heated again in the same manner as before.

* Name of firm: E. A. Lentz, Berlin C., Spandauerstrasse, 36/37.—After *Hager, Pharm. Prax.*, II., 999.

Large Dose of Chloral.

James J. Healy, M.D., of Newburyport, Mass., reports a case of a man, aged forty, suffering from over drinking during a period of two weeks, and who, through disobedience of a nurse, took, in the course of ten hours, ten drachms of chloral-hydrate, with the effect only of producing five or six hours of restless sleep.—*Boston Med. and Surg. Jour.* No. 6.

OUR PRESENT KNOWLEDGE OF THE CINCHONA ALKALOIDS.

BY CHARLES RICE.

(Continued from page 110.)

Quinamia, $C_{19}H_{24}N_2O_2$, was discovered by Hesse (1872) in the bark of *Cinchona succirubra*, of Darjeeling, and has since been found by the same chemist in all East Indian barks of the same species. He has also shown it to exist in the barks of *Cinchona nitida*, *C. erythrantha*, *C. erythroderma*, *C. rosulenta*, *C. Calisaya* var. *Schuhkrafft*, and *C. Calisaya* (*Para-bark*). It forms anhydrous crystals, which are soluble at 30° C. = 68° F., in 32 parts of ether, or in 100 parts of alcohol, yielding dextrogyre solutions. (See also NEW REM. 1877, p. 300.)

*Quinidamia** (Quinidamine; Hesse's Conchinamine), $C_{19}H_{24}N_2O_2$, accompanies quinamia in the barks of *C. succirubra* and *C. rosulenta*, and, perhaps, in all the barks mentioned in the preceding paragraph. Both of the last-mentioned alkaloids deviate the ray of polarized light to the right.

Homocinchonia, $C_{19}H_{22}N_2O$, *Dihomocinchonia* (amorphous), $C_{38}H_{44}N_4O_2$, and *Homocinchonidia*, $C_{19}H_{22}N_2O$ occur in the bark of *Cinchona rosulenta*. The latter alkaloid is lævogyre, crystallizes from strong alcohol in large prisms, and forms a neutral sulphate containing six molecules of water, which is met with in commerce in the form of light white masses, resembling magnesia. It swells up in chloroform. *Paytia* or paytine, $C_{21}H_{20}N_2O+H_2O$, is contained in the white "Paytabark," of uncertain origin. It is accompanied by the amorphous alkaloid *Paytamia*.

Cusconia, or cusconine, $C_{23}H_{26}N_2O_4+2H_2O$, a constituent, crystallizing in laminæ, of the so-called Cusco-bark (*C. pubescens*, var. *Pelletieriana*), discovered by Leverköhn, is distinguished from all other cinchona-alkaloids by forming with sulphuric acid a yellow amorphous gelatinous neutral sulphate, insoluble on further addition of acid. The acetates, and most of the other salts of this base, also appear in form of a jelly.

Aricia (Aricine or Cinchovatine), $C_{23}H_{28}N_2O_4$, isomeric with cusconine, and occurring in the same species of bark, discovered by Pelletier and Coriol; crystallizes in white glossy prisms, is lævogyre, like cusconine, and forms salts which are very little soluble, the binoxalate and acetate being almost insoluble.†

Cusconidia (or Cusconidine), an amorphous alkaloid, which accompanies the two last mentioned ones, appears to be a highly changeable substance. From its solution in acids, which has never yet been obtained colorless, it is thrown down by ammonia in pale-yellow amorphous flakes, which agglutinate after washing, and after drying contract and melt on exposure to air. Its formula has not yet been determined.

Paricia or paricine ($C_{16}H_{18}N_2O$) accompanies quinamia in the bark of *C. succirubra* of Darjeeling. This may be separated from all other natural alkaloids by precipitating their dilute solution with sodium bicarbonate, which precipitates paricia at once, the other alkaloids soon afterwards.

Dicinchonia is a constituent of the amorphous alkaloid (of the quinoidine) of such barks as are tolerably rich in cinchonia and cinchonidia. Its formula is probably $C_{40}H_{48}N_4O_2$.

Diquinidia (Hesse's diconchinine), $C_{40}H_{46}N_4O_2$, is the chief constituent of "quinoidine," and accompanies quinia and quinidia probably in all cinchona barks which contain the latter. Most of what has been termed by chemists as "amorphous alkaloid" is nothing else but diquinidia, which stands in close relation to quinidia, as the following reaction shows:

$$C_{40}H_{46}N_4O_2+H_2O=2C_{20}H_{24}N_2O_2.$$

It fluoresces in solution in dilute sulphuric acid, gives the thalleioquin reaction, and is dextrogyre.

In addition to the above-mentioned natural alkaloids, O. Hesse has lately described two others, one of which he obtained from a Java bark (*C. Calisaya* var. *Javanica*), easily soluble in ether, forming a neutral oxalate crystallizing in *laminæ* and soluble in dilute sulphuric acid with intensely yellow color. Hesse has named this *Javania* or *Javanine*. The other has been found in a young Bolivian bark; this is a liquid, and probably volatile alkaloid, possessing a penetrating odor, somewhat like chinoline. Further researches, however, are required on both of these alkaloids.

The natural cinchona alkaloids are delicate bodies, which are easily changed by heat or in presence of certain bodies, chiefly acids, into secondary alkaloids, differing from the natural ones in various aspects, but chiefly by their inability to crystallize, although sometimes they form crystallizable salts.

Quinicia, $C_{20}H_{24}N_2O_2$, is produced by heating quinia or quinidia to rather high temperatures particularly in presence of certain acids. The sulphates of both quinia and quinidia, when heated to the melting point, are converted, without loss of weight, into sulphate of quinicia, which is dextrogyre.

Cinchonicia, $C_{20}H_{24}N_2O$, is produced in the same manner, namely by heating the neutral sulphate of either cinchonia or cinchonidia to the melting point, when they are converted, without loss of weight, into sulphate of cinchonicia. The new alkaloid is dextrogyre and amorphous, but it forms, like quinicia, crystallizable salts.

* The same relation which exists between quinia and quinamia may be assumed to exist between quinidia and quinidamia; hence we prefer the latter term to Hesse's conchinamine, which is derived from conchinine, adopted by that chemist to denote what we understand under quinidia.

† Two years ago Hesse found the reactions and composition of Winckler's *aricine* to be identical with those of cinchonidia, whence he concluded the two alkaloids to be identical. Since then, however, he has convinced himself of the separate existence of the alkaloid "aricia" or aricine.

Quinamidia, $C_{19}H_{24}N_2O_2$, an amorphous alkaloid, which results from boiling quinamia for some time with dilute sulphuric acid.

Quinamicia, $C_{19}H_{24}N_2O_2$, is formed, besides the preceding alkaloid, by dissolving 1 mol. of quinamia (or quinidamia, probably), in dilute sulphuric acid, containing 1 mol. SO_3, evaporating the solution at a gentle heat, and drying the residue at 100° C. = 212° F. The residue dissolves easily in water, and on addition of sodium bicarbonate to the solution, quinamicia is precipitated. This is dextrogyre and soluble in ether.

Protoquinamicia, $C_{17}H_{20}N_2O_2$, is produced in the same manner as the preceding body, but the residue is dried at 120–130° C. = 248–266° F., until it is dark-brown. This sulphate is almost insoluble in water, and its solution precipitates, on addition of sodium bicarbonate, the new alkaloid, which is insoluble in ether.

Apoquinamia, $C_{19}H_{22}N_2O$, isomeric with homocinchonidia, is produced by boiling quinamia or quinidamia for a few few minutes with hydrochloric acid. It does not seem to be procurable from quinamidia. It is a white amorphous powder, easily soluble in ether and alcohol and in dilute hydrochloric acid. It differs from quinamia and quinidamia particularly in this, that it fails to give the handsome reaction with chloride of gold, which produces in solutions of the above two alkaloids a yellow precipitate, gradually changing to purple.

Homocinchonicia, $C_{19}H_{22}N_2O$, is produced by melting the neutral sulphate of homocinchonidia.

Hydrocinchonia, $C_{20}H_{24}N_2O$, or according to Skraup, $C_{19}H_{22}N_2O$, is produced by the oxidation of cinchonia, and according to Caventou, found ready formed in commercial cinchonia, which statement, however, requires confirmation.

Other decomposition products of the cinchona alkaloids exist, but they are generally only produced by energetic reagents, and are not likely to be met with outside of chemical laboratories, for which reason they are here omitted.

Kousso (*Hagenia Abyssinica* Lamarck).

Kousso.

Hagenia Abbyssinica Lamarck (or *Brayera anthelminthica* Kunth, *Brayera Abyssinica* Moq., *Bankesia Abyssina* Bruce) is a handsome tree, growing to a height of 60 feet, and is found throughout the entire table-land of Abyssinia at an elevation of 3,000 to 8,000 feet above the level of the sea. It is remarkable for its abundant foliage and fine panicles of flowers, and is generally planted

about the Abyssinian villages. The flowers grow in broad panicles, 10 to 12 inches in length. They are unisexual, but, though male and female occur on the same tree, the latter are chiefly collected. [According to Tison, the male flowers, which the Abyssinians call "female kousso," chiefly constitute the officinal anthelminthic]. The panicles are either loosely dried, often including a portion of stalk and sometimes a leaf, or they are made into cylindrical rolls, kept in shape by transverse ligatures. Very often the panicles arrive quite broken up, and with the flowers in a fragmentary state. They have an herby, somewhat tea-like smell, and a bitterish, acid taste. The panicle consists of a zigzag stalk, which, with its many branches, is clothed with shaggy, simple hairs, and also dotted over with minute stalked glands; it is provided at each ramification with a large sheathing bract. At the base of each flower are two or three rounded, veiny, membranous bracts, between which is the turbinate, hairy calyx, having ten sepals arranged in a double series. In the male flower, the outer series consists of much smaller sepals than the inner; in the female, the outer in the ultimate development become enlarged, obovate and spreading, so that the whole flower measures fully ½ inch across. In both, the sepals are veiny and leaf-like. The petals are minute and linear, inserted with the stamens in the throat of the calyx. The latter are 10 to 25 in number, with anthers in the female flower, effete. The carpels are two, included in the calycinal tube; and each surmounted by a hairy style. The fruit is an obovate, one-seeded nut.

Kousso, as seen in commerce, has a light-brown hue, with a reddish tinge in the case of the female flowers, so that panicles of the latter are sometimes distinguished as Red Kousso.

Kousso has been analyzed by Wittstein (1840) Harms (1857), Pavesi (1858), and Bedell (1859–1862). The latter separated the active principle, which has been denominated *Kosin*. When pure, this is a tasteless substance, of a yellow color, forming fine chrystals of the rhombic system, readily soluble in benzole, carbon disulphide, chloroform and ether; less freely in glacial acetic acid, and insoluble in water. Of alcohol, spec. gr. 0.818, 1,000 parts at 12° C. dissolve only 2.3 parts of kosin. It is very soluble in alkalies, but has no acid reaction. Kosin fuses at 142° C., and remains, after cooling, an amorphous, transparent, yellow mass; but if touched with the *smallest drop* of alcohol, it immediately assumes the form of stellate tufts of crystals. This striking phenomenon may be repeated at pleasure, kosin not being altered by cautious fusion. Other constituents of the drug are: wax, sugar, gum, tannin (24%), an acrid bitter resin; a stearoptene-like volatile oil having the odor of kousso, and traces of valerianic and acetic acids.

Kousso is brought to England by way of Aden or Bombay; some appears also to reach Leghorn, probably carried thither directly from Egypt.

The drug is employed solely as a vermifuge, and is effectual both against *Tænia Solium* and *Botryocephalus latus*. The Abyssinian practice is to administer the flowers in a very ample dose, which is sometimes attended with alarming and even fatal effects. Johnston (in his *Travels in South. Abyss.*, 1844) says that, if the Abyssinians had any other prompt remedy against tape-worm, they would soon abandon kousso, which is dreadfully severe." The notion that the action of the drug is partly mechanical, and due to the hairs of the plant, prevails in England and has led to the use of an *unstrained* infusion of the powdered leaves.

Arsenate of Gold.

EXTRAORDINARY powers have lately been attributed to arsenate of gold, as a remedy in nervous affections of every variety. It may be prepared by mixing 1.8 grammes of chloride of gold and sodium (Germ. Pharm.) with 0.55 grammes of neutral, dry sodium arsenate, rubbing the mixture with 1 gramme of water, and drying again at a moderate temperature. From the published reports it would appear that the remedy had also been used in trituration, by homœopathists, and as the dose would naturally have to be quite small, such a method of administration would probably be preferable.

Pao-Pereira.

IN a letter to the *Bulletin de Thérapeutique*, M. Stanislas Martin states that Guibout gave a description of Pao-pereira in the *Journal de Pharmacie*, in 1833. In 1838, M. Ezequeil Correra dos Santos isolated an alkaloid from the bark, to which he gave the name of pereirine, which is identical with the alkaloid which Messrs. Rochefontaine and Freitag propose calling Geissospermine.

M. Mantin objects to the latter name, on account of its tendency to cause confusion, as the alkaloid has been in use for many years in Brazil under the name of pereirine.

Ergot in Diabetes Insipidus.

PROF. DA COSTA'S clinic on January 12th exhibited a patient who had been passing ten pints of urine daily, the amount of fluid ingested being fully two pints less. No cause could be assigned for the disease. The urine contained no sugar or albumen, and had a s.g. of 1,005. When commencing the use of ergot, drachm-doses of the fluid extract were taken three times daily, then four times, and at last six times daily. The effect on the renal secretion was to reduce its amount to five pints, then to three pints, by which time the ergot had been stopped and peppermint water substituted. During two weeks of this supplemental treatment there was no return of the disease. Prof. Da Costa has had three other cures by this method, one of which was verified a year after its discharge.—*Med. and Surg. Rep.*

HOW TO DETECT ADULTERATIONS BY MEANS OF THE MICROSCOPE.

BY LOUISA M. REED.

(Continued from page 75.)

Oat-starch (Fig. 1) is the nearest like that of rice, and it is quite difficult to distinguish between them. Oat-starch is both compound and simple. The compound grains or masses are oval, spherical, or egg-shaped; the surface of the masses being smooth, while those of rice are irregular. The divisions into grainlets show very distinctly. The simple grainlets are larger than those of rice; being $\frac{1}{4080}$ of an inch in diameter, and bounded by one or two curved faces. They are without nucleus and without rings. A faint cross is seen with polarized light.

Buckwheat-starch (Fig. 2) very closely resembles those of rice and oat. It is made up of both compound and simple grains. The compound grains or masses are cylindrical or prismatic. When cylindrical, the curving surface is perfectly smooth, but the ends are irregular, as though they had been broken. These masses are very numerous and characteristic, and somewhat resemble the cell-contents of black pepper; being coarser, however, than the latter. Black pepper is largely adulterated with buckwheat. For this reason buckwheat should be compared with some of the grains from the central part of black pepper, which can be easily obtained by scraping it out with the point of a pen-knife. The grainlets of buckwheat-starch are like those of rice, in having a central nucleus and no rings, and are like those of oat, in having one or more curved faces. In size, they are about $\frac{1}{3000}$ of an inch in diameter. A correct knowledge of these starches, so closely related to rice, can be obtained only by faithfully comparing each under the microscope with starch from the latter source.

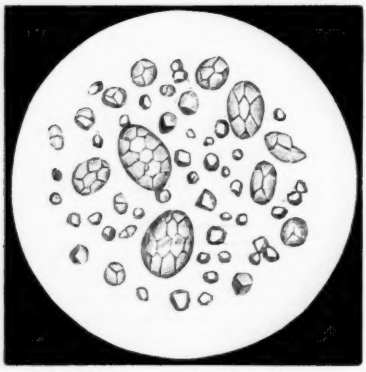


FIG. 1.—Oat-Starch, compound and simple grains. x 375.

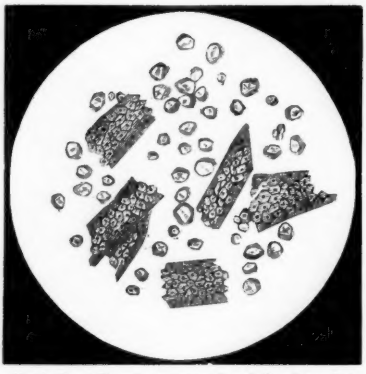


FIG. 2.—Buckwheat-Starch, compound and simple grains. x 375.

Sago Starch is obtained from the parenchyma or pith of several different varieties of palms. Sago appears in market in a variety of forms: as pearl sago, white sago, sago flour, sago meal, etc. When examined with the microscope, the starch grains of sago appear quite large compared with those of the other starches. They are oval, ovate, or elliptical in shape; much broken, generally one extremity is rounded, and the other extremity, or the sides near it, appear to be clipped, which is due to the pressure of the adjoining starch grains. The nucleus is eccentric, as indicated by a dark cross or slit which frequently extends the length of the grain; the surface is irregular or tuberculated, and marked by a few distinct rings, fewer than are seen in the potato-starch grain. The grains exhibit a faint cross when viewed with polarized light. The starch grains composing any of the commercial sagos are so changed by the process to which they are subjected before being ready for market, that there is little resemblance between them and the fresh grains. The starch grains found in the pearl sago are the most changed by heating. Sago is not used so much in this country for an adulterant as in Europe. Commercial sago is frequently adulterated with potato starch, sometimes with rice. Sometimes there is an entire substitution of potato starch for sago. Any adulteration used for sago can readily be detected by the microscope, by noticing the above-described characteristics.

Tapioca Starch is prepared from manioc or cassava, or, according to Linnæus, from the root of *Janipha Manihot*. In the preparation of tapioca for market, the substance is subjected to a temperature of 100° C., which changes the appearance of the starch grains very much from what they are in their fresh state, yet they are not entirely destroyed. The heat partially dissolves the outer case of the starch grains, which renders tapioca slightly soluble in water. The grains are quite uniform in size (about $\frac{1}{2000}$ of an inch in diameter); they are round or cup-shaped, with flattenings here and there, due to the pressure of neighboring grains. The starch grains of tapioca are generally found floating in

the field singly, but in the growing root they are found compounded of two, three, or four grains each. A distinct and large circular nucleus is seen in fresh specimens. In dried specimens the nucleus is marked by a distinct star or cross. Tapioca is adulterated with rice, sago, and potato starch. Potato flour is frequently prepared like pearl tapioca, and sold as such. Tapioca is used quite extensively in Europe and England as an adulterant, but not so much in America. These starches, sago and tapioca, are so much changed in the different commercial varieties, *i. e.*, pearl, white, meal, etc., that to become well acquainted with them one should examine each variety carefully. An illustration or drawing of these in their fresh state would hardly be of value in identifying the starch grains as we find them in market or as an adulterant.

Turmeric Starch (Fig. 2) is from the rhizome of *Curcuma longa*, and is imported principally from Southern Asia. The parenchyma is packed full of starch in angular or roundish masses. Tur-

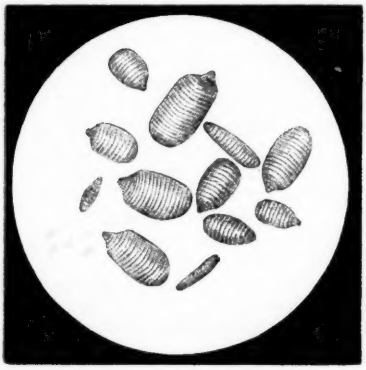


FIG. 3.—Turmeric Starch. x 375.

meric is used extensively as a coloring material, to give deeper color to the spices which have been adulterated with some of the flours. When a ground spice, as, for example, mustard, contains turmeric, even if not in very large quantities, its presence can be detected by exposing the mustard to light, when it will fade to a dingy yellow. Its presence can also be detected by treating the suspected substance with potassa, and if turmeric be present, the substance will turn a deep yellow or brick-red color. The starch grains are quite uniform in size, and in shape are elliptical, oval, or like flattened discs, sometimes even truncated. The nucleus is at one extremity, and has the appearance of being entirely outside of the grain proper. Rings quite distinct, numerous and uniform in density, pass around the grains like zones, and present a beautiful appearance in a fresh grain. Commercial turmeric has been heated so much in preparation for market that frequently the rings cannot be seen, and even the normal shape of the grain is lost. In the fresh state they show a decided cross or black bands with the polarized light, but this is seldom seen in commercial turmeric. The coloring material is a deep, reddish yellow, and is contained principally in special cells of the parenchyma. The starch grains are white. The action of iodine and potassa is the same here as with all starches, but sulphuric and sulphochromic acids are of perhaps more value in this case, for they turn the coloring matter to a peculiar rose-pink. In the examination of mustard, this test is valuable. Of the twenty specimens of mustard examined during the past two years, every one contained turmeric. It is used to color many other spices. The turmeric of commerce is itself adulterated frequently with corn-starch, etc.

Ginger Starch grains are irregularly spherical, oval, or disc-shaped, closely resembling those of turmeric, belonging to the same family *Zingiberaceæ*. The nucleus is at the extremity, as if it were hardly a part of the grain, rings numerous and uniform. A cross is seen with polarized light.

Much of the ginger of the market has been scalded, which causes the starch grains to lose their normal shape. It is difficult then to see the rings, and the cross, which was seen with the polarized light, is destroyed. In examining the starch from the root, as found in the stores, the starch grains at the centre will be found to be more perfect than those taken from near the surface of the root.*

Notes on Drugs and Chemicals.

(Condensed from the April Report of Gehe & Co., Dresden.)

Balsam Copaiva.—The thin-fluid Para balsam is much preferred to Maranham, Maracaibo, and Angostura balsam, owing to its greater richness in essential oil. According to Hamburg advices, it is at present highly important to be very careful in selecting pure stock, as the imitation or adulteration of this article is carried on extensively.

Balsam Tolu.—Besides the genuine, there has appeared in the market a spurious balsam, imported as pure, but containing an altogether different resin.

Borax.—California borax has ceased to be in demand in Europe, owing to the increased sources of domestic supply. Refined borax was not imported in Hamburg during 1877.

Camphor.—The stock on hand in Europe is much diminished, and higher prices may be expected.

* The following references may be of value to those wishing to carry the study of starches farther: Hassall's "Adulterations in Food and Medicine;" Sachs' "Botany," page 56; Soubeiran, "Dictionnaire des Falsifications;" Wiesner, "Rohstoffe des Planzenreiches," pp. 239–289; Planchon, "Détermination des Drogues simples, Vol. II., chap. XIII.; Nägeli, "Die Stärkekörner," Zürich, 1858, 4°, Flückiger und Hanbury's "Pharmacographia."

Cantharides.—The supply of Russian, Hungarian and Wallachian "Spanish" flies having been very scant during the past season, attention is drawn to the equally effective *Chinese flies*, which are offered at a considerably reduced rate.

Cassia.—The market is overstocked with this article, and the supply promises to be very large. Prices will certainly be lower.

Colocynth.—Select whole apples are altogether out of market at present. Most of last year's stock has been sold to the United States.

Cinchona.—Red bark is nearly all sold out, and scarcely any is to be had, even at exorbitant prices.

Sassy Bark.—The bark of *Erythrophlæum Guineense* (NEW REM. V., 272, 276, VI., 39, 63) from the west-coast of Africa has been in some demand.

Arnica.—The demand for this article has exceeded the supply.

Kousso, both in stripped flowers and in bunches, is extremely scarce.

Coca.—The difficulty of securing fine leaves continues. According to advices received from the German colony on the Pozuzu River in the interior of Peru, the reason for this is, that coca thrives well only in a narrow zone on the eastern slope of the Andes, at an elevation of 3,000–6,000 feet, and that the Indian consumers retain the best qualities, while only the inferior sorts are exported.

Quicksilver.—Borneo has formerly exported only cinnabar, but in 1877, 890 flasks of metallic quicksilver reached the London market. The total amount imported into London was 48,105 flasks.

Keeramar, the herb of *Aristolochia bracteata*, native of India, is said to be an effective antiperiodic and anthelmintic. It may be had in the market.

Oil of Bitter Almonds.—In spite of the short harvest of almonds, the price of this oil has almost remained the same, owing to the competition of the French manufacturers, who are able to sell at low figures, because their oil is mostly made from *peach-kernels*, and frequently also adulterated with oil of mirbane.

Croton Oil.—It would seem that Senier's observation, that only so much of the oil as is soluble in alcohol has irritating properties, should be taken advantage of. Either the expressed oil might be treated with alcohol, or the seeds might be exhausted with this menstruum, in which latter case the fat at the same time extracted should be allowed to separate.

Oil of Rose.—The latest advises from the Balkan show that the rose plantations have *suffered but little* from the ravages of war, and may be reckoned upon for a moderate supply this year. The distillatory apparatus, however, has everywhere been destroyed or carried off, and on a prompt replacement of the necessary utensils, more than on anything else, depends this year's turnout.

Oil of Turpentine.—A spurious article, made from resin and petroleum residues, is quite deceptive and offered at very low prices.

Aconite.—Japanese aconite, which much resembles the European aconite root, is in the market.

Rhubarb.—Attempts have been made by private parties to revive the importation of first-class rhubarb by way of Kiachta, which had been abandoned by the Russian Government in 1863. But the native traders who had fitted out a caravan last year with 18,000 lbs. of rhubarb to carry to Kiachta, lost their whole stock during an attack of Chinese rebels upon the city where they had put in for the night.

Sze-chuen rhubarb, which is produced by cultivation, and the harvest of which occurs in October, has risen in price. The favorite Shansi-rhubarb is brought to the Shanghai market during March and April; this is derived from wild-growing plants in the mountains of the province Shansi. The various districts are there auctioned off by the mandarins to the highest bidders; in wild and desolate regions the collection is uncontrolled.

Senega.—Complaints are made in Europe on the want of care and cleanness of the invoices of seneka root received from America.

Benzoic Acid.—The artificial acid, made from urine, commands a better price, but is still low enough to encourage its manufacture from phthalic acid, or, according to a newly discovered process, from carbon oxychloride (or phosgene gas, $COCl_2$) and benzol. The natural acid made from the gum is lower, which is probably due to the fact that certain varieties of Botany Bay gum (Gummi acroides), which were formerly supposed to contain cinnamic acid, were found to yield *benzoic acid.*

Cathartic Acid, from senna, is but little in demand, owing to its high price.

Copaivic Acid, crystallized, is not made from balsam copaiva, but from Gurjun balsam. [Prof. Flückiger found it to be no acid, but an indifferent resin. The name "copaivic acid" does not belong to this article. See April number, pg. 116.]

Sclerotic Acid, the active principle of ergot, according to Prof. Dragendorff, which has been confirmed by many experimenters, may now be obtained at very reasonable prices in form of light-brown, loose, spongy, and not hygroscopic pieces, dried in vacuo.

Anhydrous Sulphuric Acid, a white crystalline mass, used in coal-tar color factories, is brought to market from England in large iron drums holding 100 lbs., and is composed of 40% pure anhydride and 60% monohydrated sulphuric acid, spec. gr. 1.845. The same substance is now also produced in Northern Bohemia, whence it reaches the market in tinned iron boxes.

Ethyl bromide was in active demand. It has been much used, with excellent effects, as a hypnotic. In febrile cases, however, it was found to be useless. It is an excellent substitute for

morphia or chloral. (See NEW REMEDIES, VI., 260.)

Ammonium Carbonate.—A Scotch firm manufactures this from urine. The product is quite satisfactory in looks, but is said to have a disagreeable odor on breaking it into pieces.

Atropia Salicylate has been introduced into therapeutics.

Bromine.—The transportation of bromine at sea being accompanied with such risks, a crude potassium bromide has been exported to Europe from the U. S., from which purified pot. bromide could be prepared cheaper than from bromine itself. But there is no bromine nor any bromides in the market which do not contain chlorine or chlorides. Bromine has a spec. grav. of about 3.0 ; but chloride of bromine has the same.

Quinia Sulphate.—Owing to the threatened import duties on cinchona bark, American manufacturers have sought calisaya bark even in the London market. Should Congress adopt the proposed tariff, namely 10% ad valorem on crude bark, and 20% ad val. on quinia sulphate, it is certain that European, and particularly German manufacturers, who have hitherto exported annually about 150,000 ounces to the U. S., will be still more able to compete with the American firms.

Quinia Hydrobromate and *Salicylate* are much inquired for.

Quinia Tannate.—The tasteless quinia tannate, introduced by Rosznyay, has been brought somewhat into discredit by imitations composed of quinidia tannate.

Codeia.—A brisk demand during the winter, where it is much used in bronchial catarrh, and low percentage in the usual opium sorts, have raised the price more than 30%.

Butyl-Chloral (*Croton-chloral hydrate*) appears to fall into disuse.

Coumarine.—The preparation of natural coumarine from tonca beans does not pay, because the artificial, made by starting from carbolic acid, is of superior quality and much cheaper.

Digitalin, made from the seed, is lower. During its manufacture a quantity of the so-called "substance inerte" was obtained in small white crystals, which is offered for trial and experiment.

Extractum Duboisiæ myoporoidis.—An account of the mydriatic effects of this drug has been given on page 118 of our last number. Gehe & Co. offer to procure it.

Oleoresin of Male Fern.—Gehe & Co. only use pure ether (of spec. gr. 0.725) for extraction. whe yield of oleoresin is about 7–10% of the Teight of rhizome; hence the price is somewhat higher than that of some other firms, who use a mixture of ether and alcohol for exhaustion.

Extractum Opii.—The price of this can only be reduced by deteriorating the quality. It should be prepared strictly in accordance with the Germ. Pharm., by extracting opium *only twice* with water, not to complete exhaustion. Only the former product will contain (about) 18% of morphia.

Potassium Bromide.—The percentage of potassium chloride present as impurity has ranged from 2% to 5% and over. Gehe & Co. make a brand "purissimum," which contains only ½%. It is impossible to obtain it entirely pure.

Narcotina.—The high price of quinia may perhaps cause this alkaloid to be again employed as an anti-intermittent.

Papaverina Hydrochlorate was in considerable demand as a remedy in brain affections, and is said to have been particularly serviceable in *delirium tremens.*

Pilocarpia Hydrochlorate.—Besides its well-known other properties, this alkaloidal salt is a very prompt myotic (contracting the pupil), and is to be preferred to *eserina*, because it does not cause inflammation of the conjunctiva, as the latter.

Podophyllin (Resina Podophilli).—Gehe & Co.'s product has a lighter color and is twice as bulky as other commercial brands.

Goa-Powder, Pulvis Ararobæ.—The preparation of this powder is very distressing to the workmen ; even the most careful does not escape painful inflammation of the eyes lasting one or two days.

Powdered Leaves may be preserved for many years without change of *color* or properties, by keeping them in tin boxes pasted up with paper. But in glass-vessels, even when placed in a dark room, they invariably fade.

Powdered Lactucarium is much in demand, and the apparent high price is not objected to, because the equable diffusion of lactucarium in a liquid is known to be one of the most difficult pharmaceutical tasks. In converting lactucarium into powder, about 50% are wasted, partly through loss, and partly owing to the removal of a caoutchouc-like body, the presence of which interferes with the powdering.

Antihydropin, Pulvis Taracanæ, the powder of the Russian cock-roach (*Blatta Lapponica*), which has been found to be an effective diuretic, and to be particularly useful in dropsy, has been in such an active demand that the supply could not keep pace with it.

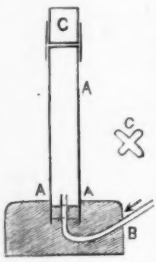
Saccharated Chirettin.—The bitter principle of of *Agathotes Chirayta* Don. (*Ophelia Chirata* D. C.) which is used extensively in the East-Indies in form of a sacchared powder, is worthy of a trial as a substitute for quinia. Gehe & Co quote it under the name : "Saccharo-Cherettina."

Compressed Sponges and *Sponge-tents.*—The former are prepared by merely compressing sponge wetted with plain water by means of twine-wrapping. The latter are made in the same manner, except that gum arabic and a very little carbolic acid are added to the water.

Vanadium salts, and *Vanadic Acid*, which have recently been much used in dyeing and ink-manufacture for the production of a pure jet-black (see NEW REMEDIES V., 144) are now also obtained at lower rates than formerly, from the Austrian mines at Joachimsthal.

On a simple Bunsen's Burner.

A SIMPLE and inexpensive Bunsen's burner has been devised by Dr. P. Ebell, which may be constructed from ordinary laboratory materials, and which is by competent judges declared to be superior to metallic burners, for observing flame-reactions. In a piece of combustion-tubing, made of hard Bohemian glass, about 10–12 cm. (4–4¾ inches) long, two openings *a*, *a*, are blown, the edges of which are melted smooth in the flame. This constitutes the burner-tube proper. Into the lower end is introduced, by means of a cork, the curved glass tube *B*, the inside end of which is softened in the flame and formed into the shape indicated at *c*. The whole is held upright by being imbedded in a foot-piece made of plaster or cement, which may be painted black, and then covered with shellac varnish. Since the upper part of the tube, by repeated heating and cooling, would acquire a tendency to crack, it is recommended to attach a shorter piece to the main tube, by means of a small rubber ring. In case of breakage, this may readily be replaced.—*Ding.'s Pol. J.*



A Simple Bunsen's Burner.

Quinetum.

DR. H. J. VINKHUYSEN, physician to the household of the king of the Netherlands, writes to *The Practitioner* of February, regarding his experience with the collective alkaloid from Peruvian bark, called quinetum. He has used it in one hundred cases, and formulates his conclusions as follows :

1. The only malarious disease in which quinetum cannot be employed in place of quinine is pernicious fever. Quinetum requires more time to act than quinine, and as rapidity of action is absolutely necessary in this disease, quinetum cannot be used in it as a substitute for quinine.

2. In all forms of pure malarial intermittent fever, quinetum has the same apyretic effect as quinine, but is less powerful, and acts more slowly. It must therefore be given in large doses and at longer intervals before the ague fit, than quinine.

3. Quinetum does not produce the unpleasant and even dangerous symptoms of quinine when given during the fit, and may be taken during the fit without causing any unpleasant feeling.

4. Quinetum never causes noises in the ear.

5. Persons who are liable to suffer from the toxic effects of quinine, and who therefore cannot take it without the greatest discomfort, can take quinetum without this unpleasant effect, and yet obtain a similar therapeutical result.

6. The influence of quinetum in chronic cases is greater than that of quinine.

7. The tonic action of quinetum is similar and perhaps even greater than that of quinine.

8. The action of quinetum in cases of masked or larval malaria, and especially in rheumatic affections due to malarious influences, is incomparably greater than that of quinine.

A Kava Drinking Bout upon Viti.

THE word *Kawa* has throughout the Polynesian Islands two distinct meanings : in the first place, it denotes the root of the *Piper methysticum*, of which we gave a description and illustration in our last volume (1877, p. 67 ; see also 1876, p. 294), and which appears to have decided remedial properties ; in the second place, it denotes a peculiar beverage, which is prepared by chewing the kava-root and infusing it with water. Upon Viti* the root is a regular article of trade among the natives, and may be procured in every village ; the beverage itself is there called *Yankona*.

Dr. Max Buchner, who has visited the Fiji Islands and has been an eye-witness of the manner of preparing the beverage, gives the following interesting account of a Kava-banquet in the *Gartenlaube* (1877, No. 51) :

"Through a narrow door we creep into the hut of the chief. Two fires only sparingly illuminate the interior and emit such a pungent smoke that our eyes begin to water, and we can barely distinguish about a dozen naked visitors, sitting close together with crossed legs. Most of them are old men, who are accustomed every evening to meet in the hut of the chief to discuss the affairs of the village. . . . We shake the chief by the hand, and take a seat at his side, native fashion. Everybody offers us his hand as a token of welcome. . . . Our meal having been dispatched, the chief sends off a couple of boys to procure some kava-roots. Others drag from a corner the large kava-bowl, more than 20 inches in diameter and carved out of a dark-brown hard wood, having an eyelet at one edge, through which a short rope is passed. This is always extended along the floor in the direction of the most distinguished person present at the feast, which honor this time is conferred upon us. To our right and left the chief and his friends takes seats, and on the opposite side are ranged the boys, who are appointed to do the chewing. Having cut the knotted, twisted and green root, by means of English knives, into manageable pieces, they begin their work without any further delay. Upon Viti this chewing is mostly done by boys, while on the other island groups it is intrusted to girls.

"One of the old men places a piece of bamboo across his knees, and by aid of two thin sticks, beats upon it a few taps, as a prelude to a song. The faces of the natives at once assume a serious plaintive mien, and they begin to sing, with gradually rising voice, a monotonous dactylic melody,

* The Fiji Islands, or Viti, are not included in what is now understood as Polynesia ; they are classed with Melanesia, and are the only group of islands of this class, where the Kava beverage is used.

accompanied by symmetric movements of arms, bows, and clapping of hands. Each verse ends with a sharp vowel, almost amounting to a yelp. During the intervals the most breathless silence prevails; none of the boys dares to whisper, and the only audible noise within the hut is the crunching of the roots between the hard-working maxillas.

"As soon as one of the boys has completed the chewing of a piece, he removes it carefully from his cheek by means of his thumb and index-finger, and deposits it carefully (but never throws or spits it) in the form of a well formed roundish quid in the bowl. Whenever the number of quids is about double that of the guests present, an older boy, who acts as brewer, pours upon them a corresponding quantity of water from hollow cocoa-nut shells, stirs the mixture with his fingers, and then proceeds to the delicate task of filtration. This is done by means of the bast of the native cotton plant, or *wau*, which is repeatedly dipped into the liquid. The ligneous particles of the masticated root are caught by the fibres of the bast, and the liquid portion is recovered by pressure. All this must be performed with certain regular and prescribed movements of the arms, which is considered of great importance.

The brewing of the yankona being then finished, the boy at the bowl claps his hands three times, fills the first cup, a hollow cocoa-nut shell, and approaches with it, in a stooping and deferential gait, the chief, who politely resigns to us the honor of the first drink. While we take the cup, he kneels down and again clasps his hands three times, a ceremony which is always observed when a superior person condescends to take anything that is offered to him. We are compelled to empty the cup. A failure or refusal to do so would be considered among the natives as a great discourtesy. We throw the empty cup back towards the bowl, as is the custom, and the whole assembly chimes into an applause. The deed affords us, however, a much inferior pleasure, for the liquid, which in daylight looks like tea mixed with a trifle of milk, has a most disagreeable taste to a novice, something like soapsuds mixed with tannin. But it leaves an agreeable coolness upon the palate, and foreigners easily get accustomed to it, particularly if they happen to be longing for, but unable to obtain, stimulants.

"After us the chief and the others receive their share in the order of their rank. The remainder is then left for the boys, who, without ceremony, dip it up with their hollow hands and drink it.

"Many evil effects, such as skin and eye diseases, are ascribed to the kava by the natives; but the only certain effect is its diaphoretic power, as I have myself experienced.

"The yankona is not only a favorite beverage of the natives, but also of the *white* inhabitants of Viti; even the governor, a member of the aristocracy, is said to be a devotee of it. In all cases the only means for comminuting the roots are the inexpensive and insurpassable instruments which each Fiji-boy carries about in his mouth. One of the first questions, on paying a visit to a white inhabitant, is "What will you take, Fiji grog, or white-man's grog?" when if the former is preferred, the servants will at once be ordered to chew a bowl full for the guest. The word "grog" has even become naturalized in Viti among the natives, who have gradually been led, by a natural concatenation of ideas, to apply it to the kava-root itself."

Salicylic Acid in Rheumatism.

E. E. MILAM, M.D., of Paris, Tenn., reports, in the *Louisville Med. News* of Feb. 16th, six cases of rheumatism in which the salicylate of soda was employed. The first, a little girl of eight years, had swelling of the wrists, elbows, and knees. Salicylic acid, in doses of ten grains, every four hours, produced no effect, and, except when under the influence of morphia, the pain was intense. Death occurred on the tenth day. The second case, a girl of 7 years, had rheumatic inflammation of the left elbow and wrist. Salicylate of sodium, in doses of 15 grains every four hours, produced an amelioration of symptoms within six hours, and recovery took place within two days. In case third, the curative effect of the salicylate of sodium was equally marked. Case fourth had been sick with acute rheumatism for two weeks, when 30 grains of salicylate of sodium were ordered to be taken every four hours; the pain was as effectually relieved as if opium had been used, and at the next visit the doctor found her almost relieved of the symptoms of rheumatism. At the end of the third day from the commencement of the treatment, only tonics were necessary; a relapse a short time afterwards was as quickly subdued. The fifth case, a colored woman, had severe rheumatism, and was relieved of most of her symptoms within two days, by doses similar to those employed in case fourth. One wrist remained swollen, and was treated with stimulating liniments in addition to the sodium salicylate. By the sixth day she, too, had entirely recovered. The sixth case, though somewhat more tedious, showed likewise the favorable results of the use of the remedy. In summing up, Dr. Milam indorses the statement of Dr. T. McLayn in the *Lancet*, that, given at the commencement of the attack, it seems to arrest the course of the malady as effectually as quinia cures an ague, or ipecacuanha adysentery; and says it cures rheumatism much more effectually than ipecac does dysentery in his practice; also that relief of pain is always one of the earliest effects produced. So much is this the case as applied to salicylic acid, that in no instance where he has used this remedy has he had occasion to administer a single dose of opium or any other medicine of that class.

MISCELLANEOUS CONTRIBUTIONS FROM THE ORIENT.

BY PROF. XAVIER LANDERER, ATHENS, GREECE.

(Continued from November Number.)

On Kaïsopeeta, or Apricot-paste.*—A very common confection upon the island of Cyprus, and at Damascus, in Asia Minor, but less frequent in Greece, is the dried pulp of apricots (fruit of *Prunus Armeniaca*), called *Kaïsopeeta*. The fruits, which are called *verikoka* and *kaïsia*,† are cut up small, expressed, and the pulp is transferred and spread in thin layers upon marble or boards, where it is allowed to dry in the sun. It is then rolled up, and preserved for winter use. The appellation "Armeniaca" is generally ascribed to the fact that the reputed home of the apricot is Armenia,‡ analogous to the supposed origin of the ancient name for cherry, "cerasus" from the city of *Κερασοῦς*, Kerasūs, in Asia Minor. The oka (1¼ kilo) of this paste costs 3 or 4 drachms (3–4 francs). [The sample of the paste which we received from Prof. Landerer is very palatable and possesses the flavor of the apricot in a high degree. A similar confection might be made from peaches.]

On the Mineral Waters of Greece.—Greece is very rich in mineral waters. During 30 years I have discovered and examined more than 80 mineral springs, which are described in my little work entitled: *Περιγραφὴ πῶν μεταλλικῶν ὑδάτων τῆς Ἑλλάδος* ("Description of the Mineral Waters of Greece"). Among them the warm springs, and particularly the warm sulphur springs, or *Θειοθερμαῖς*, theiothermæ, are the most remarkable. The latter are found at Hypati in Phthiotis, upon the volcanic island of Milos, near Methone, in Messenia, at Kylene, and at Kaipha, in Elis, near the site of the ancient Olympia. Besides, there are found some highly esteemed warm saline waters, *ἁλιθερμαῖς*, at Ædipsos in the island of Eubœa, and at Thermopylæ. These two waters were known to the ancients under the name of "Baths of Hercules" (*Ἡρακλεῖα λουτρα*). Others are found upon the island of Kythnos, which is more commonly known under the name of Thermia (from *Θερμαῖς*, warm baths.) The chief chalybeate waters occur upon the volcanic islands Santorin, Milos, and Kythnos. The hot springs of Ædipsos and Thermopylæ have the property of incrusting objects exposed to their action, in the course of 30 or 40 days, with a fine crust of calcium and magnesium carbonates, which is perfectly white at first, but gradually assumes a yellowish-red color, owing to the oxidation of a small quantity of salts of iron. There exists also at Hermione, in the Morea, a famous alkaline spring (*νατροκρήνη*), which has lithotriptic properties. Those waters which contain sodium sulphate or sodium and magnesium sulphates and chlorides are used freely by the inhabitants as cathartics (vulg. *τζιρλονήρια*). Upon Milos there exist two caves filled with steam, and many persons afflicted with rheumatism go there to take a natural steam-bath. On the same island is another cave abounding in sulphurous fumes, which is much frequented by persons suffering from certain skin diseases. Although accommodations for guests may be obtained at nearly all these places, still there is only one really comfortable hotel for bathing guests, namely, at Thermia.

On the Colors found on Ancient Pottery.—The basis of ancient pottery was a ferruginous silicate of aluminum, containing about 5-10 per cent of ferric oxide, and the various shades were produced by choosing a clay more or less rich in iron, and by heating them more or less. The brown, yellow, and black colors which appear on these vessels are also burnt in. But the white color, which is found on many others, and which is often merely the background of various designs in other colors, is not burntin, but is applied superficially as a water color; hence, the whole of it may be removed by assiduous washing. This fine white color is in most cases pure alumina, named from the island Melos, *Μηλίας γῆ* "Melian earth." In one case I found it to be *ψιμμύθιον*, *i. e.*, white lead. The fine bright red color is artificial cinnabar, *κιννάβαρι*, applied with water, the preparation of which appears to have been known to the elder Kallias about 410 B. Ch. The bluish-green tints are produced by copper colors. Any other coloring materials found upon such vessels, as chrome colors, ultramarine, carmine, etc., at once indicate, with the greatest probability, either that the colors alone are fraudulent, or that the whole vessel is an imitation. Occasionally there are also found gilt designs, which consist of gold-leaf pasted on. The handsome black color is probably produced by a species of asphalt burnt into the vessel.

Glass vessels were likewise colored green, red, blue, and yellowish, by various mineral colors containing ferric or cupric oxides, and by ochre. Glass thus colored is, however, not transparent. The black or deep brown glass, which is occasionally found, contains ferrous oxide, and is perhaps prepared by an addition to the glass of obsidian or basalt, or other volcanic minerals of the islands of Santorin and Melos. These volcanic minerals were called by the ancients, on account of their resemblance to glass, *ὕαλος Ἡφαιστεῖα*, the stone or glass of Hephaistos.

Various Popular Remedies.—The saying *similia similibus curantur* is applicable to many remedies used by the lower classes in the Orient. The

* From *καῖδι*, apricot, and *πῆτα*, paste, cake.

† *Βερύκοκον*, plur.—*α*, apricot. It is sometimes spelled *βερίκωκον* or *βερίκουκα*. The tree is called *βερυκοκιά* or *βερυκοκεά* or *καϊδιά*.

‡ The tree is called *ἀρμενιά*, *ἀρμενιακά* by Actuarius (Ideler, Physici et Medici min., I., 365, 9); Armoniaca, by (Pseudo-) Oribasius (*de simplicibus*), 160, C; Harmonica, by the Latin translator of M. Psellus (Basle, 1529), pp. 18, 22; Muniacus, by Petrus de Crescentiis, chap. 15. Hence the Italian: meliaco.—ED. N. R.

color or shape of a particular flower, root, or other medicinal substance, often determines its use in diseases developing particular colors or affecting particular organs. For instance, the knotty roots of *Leontice Leontopetalum*, which somewhat resemble a scrofulous swelling, are used in such diseases, both externally and internally. Yellow flowers or roots, such as calendula, turmeric, rhubarb, radix lapathi, etc., are used in jaundice (*χρυση*, morbus aureus, "golden sickness"). Oriental quacks hail this disease as a particular godsend, because they pretend to cure it by a solution of gold, which must be furnished them in the shape of coin by the patient. That the gold remains in the pocket of the quack, and the patient is cheated, need hardly be added. In cases of defective or irregular lactation, and in gastric diseases, such plants as contain a milky juice are often used: *Lactuca sylvestris*, *Taraxacum gymnanthum*, *Sonchus oleraceus*, etc. In diseases arising from the blood, recourse is had to plants having blood-red parts, such as *Rubia tinctorum*, *Flores granatorum*, etc. Much mischief is done in the East by ignorant midwives, who pretend to remove sterility by the use of irritating pessaries, containing castoreum or cantharides, which produce inflammations and excoriations of the uterus. A most pernicious drug also is the stupefying Theriak, *Θηριακή*, a compound opiate, which is peddled from house to house, and is especially used to keep children quiet. They are often kept asleep for days, and it often happens that they never wake up.

The Use of Chloral in Delirium Tremens.

J. FARRAR, of Edinburgh, failing in a severe case of delirium tremens after two or three days of treatment with opiates, resorted to chloral hydrate as follows: At 5:10 A.M., thirty grains, a like quantity half an hour later. At 6 A.M., a hypodermic dose of ½ grain of morphia. At 6:10, forty grains of chloral were given. At 6:25 ⅔ grain of morphia was injected, and at 6:55 the patient was asleep, and so remained for eight hours. Recovery followed at once.

In another case, in which digitalis, morphia, etc., had been ineffectual, chloral was resorted to in doses repeated every ten minutes until 160 grains had been taken. Seven hours' sleep then took place, and was followed by recovery.

During the first two doses the patient was more excited and garrulous—indeed *intoxicated*, but this soon gave way to thick speech, inarticulate mumblings, and then sleep.—*Br. Med. Jour.*

Chloral-Hydrate as a Local Antiseptic.

PROFESSOR J. A. LARABEE, of Louisville, having lately had an experience with puerperal fever in the Forrest Hill Lying-in Hospital, believes that carbolic acid, although much lauded, is overestimated, is entirely unreliable as a disinfectant, and merely substitutes its own odor for that of the disease. On the other hand, he believes that a solution of mild strength of chloral in water, used with a douche or fountain syringe, not only removes the odors of the lochial discharges, but destroys the noxious influences of the poisons it contains. At the outset, four deaths took place within a brief period under the carbolic acid treatment. After the resort to chloral injections in every case, thirty-nine deliveries took place previous to the date of the communication, without an untoward result.—*Louisville Med. News.*

Chloral and Opium.

T. S. SHIELDS, M.D., of Crawfordville, Ga., reports (*Southern Medical Record*) the case of a woman who had been taking daily 40 to 60 grains of chloral before she came under his care, and who subsequently became habituated to the use of opium. She was subject to attacks of hysteria, against which the commonly-used remedies were employed. In an attack characterized by active delirium, wakefulness with a pulse of 120, respiration 24, and no fever, 10 grains of chloral in water were administered. An hour or two before, the patient had taken 6 grains of gum opium. A quarter of an hour after the chloral was taken, symptoms of opium poisoning supervened, and in a very short period progressed to complete arrest of respiratory movements. After great efforts, respiration was restored by means of caffein, atropia, and galvanism. Since the patient had been accustomed to the use of opium, the writer attributes to the chloral the intense effect produced in this instance.

The Use of Ergot in Cases of Submucous Uterine Fibroid.

THE use of ergot as a means for producing the atrophy of myo-fibromata of the uterine walls has become quite the accepted mode of treatment. In the *Medical Times*, of Philadelphia, Henry Brubacker, of Somerset, Pa., reports two cases in which this mode of treatment was successful. The first had long suffered from menorrhagia, and on careful examination was found to have a fibroid the size of a fœtal head, attached to the fundus and left side of the uterine walls, and submucous in character. Repeated five-grain doses of ergotine hypodermically caused decided uterine contractions, which resulted in sloughing and extrusion of the tumor, the growth being discharged piece-meal. The last portion was ligated by means by a Gooch's double canula. The second case resembled the first, so far as relates to the nature of the growth, but the fluid extract of ergot was given by the mouth in one-ounce doses daily. About four weeks of treatment sufficed to cause the mass to be squeezed into the vagina, where it was readily ligated and removed. No symptoms of septicæmia occurred in either case.

RECENT PAPERS.

Pharmaceutische Zeitung, Nos. 21–28.

Solubility of Phosphorus in strong Acetic Acid. (Dr. G. Vulpius.) [Some time ago the statement was made that *sulphur* was soluble in concentrated acetic acid. It may be of interest to know that this acid also dissolves *phosphorus*. A hot saturated solution contains about 1 per cent; and the amount dissolved is in direct relation to the strength of the acid. On cooling the hot concentrated solution, only a minute trace of phosphorus separates; but by diluting with water, the whole of the phosphorus is separated. This solution emits a phosphorescent light in the dark.]

Consumption of Chloral Hydrate. (Dr. Martius.) [Shortly after chloral was introduced into therapeutics, one manufacturer alone received orders for 2,000–3,000 cwt. for England. At present the consumption of chloral hydrate amounts to about 10 to 20 hundredweight *daily* in England and America. It appears to be used to a great extent for tippling purposes; at least all hospitals of Europe have received patients suffering from chloral habit.—Dr. Holz replied to these statements that the above rate of consumption is probably taken much too high. He thought the daily amount used all over the world was only about 300 pounds.—This figure is, however, certainly wrong; although we ourselves believe Dr. Martius' figures to be too high.]

Zeitschrift d. Oest. Apoth. Ver. Nos. 8–10.

Occurrence of Inulin outside of the Family of Compositæ. (G. Kraus.) [With few exceptions, inulin has heretofore been met with only in the Composite family. The author has now also found in it various plants belonging to the families Campanulaceæ, Lobeliaceæ, and Goodenoviaceæ; also in *Stylidium*. To obtain it, the starchy portion of the plant is boiled for a few hours with water, the solution filtered, evaporated to a thick syrup, and left to cool. Inulin then separates as a thick, white flour-like sediment, which is washed first with water, then with dilute alcohol, and finally dried.]

Spergulin; its Occurrence and Properties. (Dr. C. O. Harz.) [The seeds of *Spergula vulgaris* and *S. maxima* contain a body which shows a most magnificent blue fluorescence in an alcoholic solution. Its composition is probably identical with that of chlorophyll.]

Stability of Solution of Ammonium Oxalate. (G. C. Wittstein.) In opposition to statements that solutions of ammonium oxalate are very liable to decomposition into ammonium carbonate, Prof. Wittstein asserts that in his experience this is under no circumstances the case. Even old solutions were found to be of full strength of oxalic acid.]

Pharmaceutische Post. Nos. 4–6.

Tetramethylammonium Hydrate. [This compound, which is prepared from trimethylamia by first converting it, through the intervention of methyl iodide, into tetramethylammonium iodide, and then decomposing this with silver oxide, has lately been highly recommended in *diphtheria*. Its effects appear to be similar to neurine (see January number, page 12), which is chemically related to it. Its preparation is explained by the following scheme:

$(CH_3)_3N$	+	CH_3I		=	$(CH_3)_4NI$
trimethylamia	+	methyl iodide		=	tetramethylammonium iodide
$[(CH_3)_4NI]_2$	+	Ag_2O	+ H_2O	=	$[(CH_3)_4NHO]_2$
tetramethylammonium iodide	+	silver oxide	+ water	=	tetramethylammonium hydrate
				+	2 AgI
				+	silver iodide.]

Pharmaceutische Centralhalle. Nos. 8–12.

Matein. (H. Bydsson). [Maté, the leaves of *Ilex Paraguayensis* (see January number, pg. 1) contains a principle resembling caffein chemically, but differing from it therapeutically. Bydsson terms it *matein*.]

Conium Seed as an Admixture of Anise Seed. (A. Poehl.) [Russian anise seed is occasionally found mixed with conium seed. This dangerous impurity can only with difficulty be detected under the microscope. A chemical research for conia appears to be preferable.]

Journal de Pharmacie et de Chimie. April.

Purification of Carbonic Acid for Mineral Waters. (Mehu.) [By the following process, first employed by Raspe in Moscow, carbonic acid gas may be readily rendered perfectly pure and odorless, which is of great importance in the manufacture of soda and mineral waters. The generated gas is first passed through water, then through two large vessels, one containing solution of ferrous sulphate, the second solution of potassium permanganate, and finally it is again passed through water.]

L'Union Pharmaceutique. No. 3.

Selenium in Commercial Hydrochloric Acid. (Schlagdenhauffen.) [Many brands of French hydrochloric acid are found to contain selenium, to which its bad odor is partially due. It would be of interest to examine the acids manufactured in this country, or at least to examine the crude sulphuric acids made here from pyrites for the same impurity.]

Liebig's Annalen der Chemie. Vol. 191.

On Curarine. (Theod. Sachs.) [The author examined some of the original crystals of "sulphate of curarine" which had been prepared by the discoverer, Dr. Preyrer, and found them to consist of calcium phosphate, traces of calcium carbonate, and a brown amorphous substance which was curarine. The method followed by the author to obtain the alkaloid from curare was as follows: Curare was exhausted with cold water, which dissolved 75 per cent. the clear solution precipitated with potassium iodohydrargyrate, not in excess. The washed precipitate, diffused in water at 60° C., was decomposed by sulphuretted hydrogen; the filtrate, which contained hydriodate of curarine, was precipitated with basic lead acetate, and the remainder of the lead removed by sulphuretted hydrogen. The filtered solution yields acetate of curarine. Curarine has the composition $C_{36}H_{36}N$. Neither the sulphate nor the hydrochlorate are crystallizable.]

Journal of the Chemical Society. February.

Citric Acid in the Juice of unripe Mulberries. (C. R. Alder-Wright and G. Patterson.) [The juice of unripe mulberries contains about 27 grams of citric acid per litre. It may therefore be used as a source of the acid, although it is not present in so large a proportion as in lime juice, which contains 8 to 12 ounces per gallon, or 50 to 75 grammes per litre.]

Archiv der Pharmacie. March.

Salicylic Acid and Borax. (E. Jahns.) [The author has investigated the compounds produced by bringing together definite quantities (molecules) of salicylic acid and borax. The most definite compound is produced by boiling 1 molecule of borax and 4 mol. of salicylic acid in water, in which case half of the boracic acid of the borax is set free. The crystals of the new salt have the composition $C_{14}H_{15}O_5NaBO_3$, which the author names "sodium boro-disalicylate." The same compound may be obtained by boiling a concentrated solution of 1 mol. salicylic acid, 1 mol. sodium salicylate and 1 mol. of boracic acid. Or by boiling a solution of 1 mol. of borax, 1 mol. of sodium carbonate, and 8 mol. of salicylic acid.]

Pharmaceutical Journal and Transactions. Nos. 405–408.

Purity of Sulphate of Quinidia. (Dr. J. E. De Vrij.) [Pure quinidia sulphate in solution is precipitated by potassium iodide solution to such an extent that the clear filtrate separated from the precipitate is not made turbid by the addition of water of ammonia. Therefore, the practical test for the purity of the commercial article is to dissolve one part of the salt in fifty parts of hot water, and to add to this solution a half part of iodide of potassium. If the precipitate is not sandy but resinous, no further

trouble need be taken, for this resinous aspect proves that the salt contains either cinchonia or cinchonidia or perhaps both of them. If, however, the precipitate constitutes a *heavy sandy crystalline* powder, the filtered liquid is after some hours tested by liquor ammoniæ. If this addition makes the liquor only slightly turbid without formation of an appreciable precipitate, the conclusion is that the salt is really good sulphate of quinidine, and contains only traces of other cinchona alkaloids, which generally is a slight trace of cinchonia.]

Notes on Indian Drugs. (W. DYMOCK.) [*Helicteres Isora* L. = *Isora coryli folia*, Schott et Endl.; the fruit consists of five slender angular carpels twisted like a corkscrew. Its taste is mucilaginous, and its properties may be called demulcent.—*Balsamodendron Opobalsamum*, Kunth; the balsam and wood. *Native names:* balasan (Arab., Pers., Bomb.), of balsam; aood-i-balasan (Pers., Bomb.), of wood. Balsam of Mekka, when freshly imported into Bombay, is a greenish turbid fluid of syrupy consistence, having a very grateful odor, something like oil of rosemary. After being kept for some time, it becomes yellowish and more viscid.—*Melia Azadirachta* L.; the root, bark, and fruit. The former is officinal in the U. S. Ph. (secondary list). The second has poisonous properties, but is used in leprosy and scrofula. The juice of the leaves, administered internally, is said to be anthelmintic, antilithic, diuretic, and emmenagogue.—*Poinciana pulcherrima*, L.; the bark, leaves, flowers, etc. All parts are said to be purgative and emmenagogue.]

Note on Salicylic Acid. (J. WILLIAMS.) [The author comes to the conclusion that the commercial acid, as prepared by Kolbe's process, is contaminated with an acid differing from salicylic. At least, after saturating a boiling solution of salicylic acid with calcium carbonate, and removing the first crop of crystallized calcium salicylate formed, the remaining mother-water finally yields an acid crystallizing in silvery plates. The nature of this body is under investigation.]

The Analyst. April.

An Ingenious Adulteration of Milk. (J. MUTER.) [A sample of milk, which yielded a very low percentage of ash, but was of the usual specific gravity, was found, on analysis, to be adulterated with a mixture of water and glycerin of a spec. grav. of 1030 (containing 12 per cent of glycerin). Dr. Muter found that 35 per cent of such glycerin water may be added to milk without being detectable either by gravity or by the ordinary "solids not fat" process.]

Potassium Chlorate; its Excretion by the Kidneys. (O. HEHNER.) [The author found that nearly the whole amount of potassium chlorate, taken internally, is passed unaltered by the kidneys; in one series of experiments, 93.82 per cent, and in another 94.4 per cent having been recovered from the urine. The remaining 6 per cent could not be accounted for; but the author is inclined to believe that they also were voided unaltered. As long as any of the chlorate remains in the system, the saliva is intensely acid; but this acidity is not owing to free hydrochloric acid.]

Berichte der Deutschen Chem. Gesellschaft. No. 5.

Tropæoline, a New Indicator in Alkalimetry. (W. v. MILLER.) [Several new coloring agents, discovered by O. Witt, and manufactured by Williams, Thomas, and Dower, are known in the market as Tropæoline. The variety designated as "Tropæoline 00" is particularly distinguished by the fact that its solution is changed from a yellow to a *crimson* color by sulphuric and other mineral acids, as well as some organic acids, particularly oxalic. This substance may therefore be used as an indicator, in place of litmus. For this purpose about 2 cc. of a tropæoline solution containing 0.05 per cent are added to 50 cc. of the alkaline liquid to be titrated, and the standard acid is added until the straw-yellow color suddenly changes to carmine. The great advantage of this reagent is the fact that it is altogether *indifferent* towards *carbonic acid;* hence all carbonates may be titrated *without heating.*

On page 261 of our last volume will be found an account of another valuable indicator, namely *phenolphthaleïn*, which remains *colorless* in presence of acids, but is instantly turned deep purple by the least trace of an alkali. We have used this reagent for some time exclusively as an indicator. But the above mentioned tropæoline would appear to be, in some cases, a valuable adjunct to the other, because by means of it the correctness of any titration can be absolutely controlled.]

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ANALYSES OF PHARMACEUTICAL CHEMICALS AND PREPARATIONS.

We are now prepared to send samples for the July prize to such as may desire to compete for it. Answers must be received before the 20th of June, and be accompanied by a sealed envelope containing the name of the writer, and designated by a device or motto, which is also to be placed, instead of the writer's name, upon the report of the analysis.

Persons to whom a prize has been awarded are requested to send to the publishers the title of any book or books they may desire, not exceeding in the aggregate the value of $10.00.

The prize this month is awarded to GEO. MCDONALD, *Kalamazoo, Mich.* (" *Yerba Santa*"), *and* C. D. COOKE, *Boston, Mass.* (" *Cresol*"), *to be shared equally.*

THE May sample consisted of salicylic acid ($C_7H_6O_3$) of good quality. It differed from most commercial samples in being in definite prismatic crystals instead of being in a confused, semi-crystalline powder; it also lacked the slight pinkish tinge so usually observed. As to its method of preparation we may speculate only. Its distinct crystalline form shows it to have been crystallized from some solvent, as water-alcohol, or a mixture of alcohol and ether, while its unusual purity would suggest that it may have been dialyzed, then recrystallized. A study of the methods of preparing salicylic acid will show what impurities it may acquire. Formerly salicylic acid was prepared from the essential oil of *Gaultheria procumbens* (oil of wintergreen). This oil contains a small amount of an oil having the same composition as oil of turpentine ($C_{10}H_{16}$), while the larger portion consists of the oil having the characteristic taste and odor of wintergreen, and is, chemically, methyl salicylate ($CH_3C_7H_5O_3$). This may be treated with caustic alkalies, then with mineral acids to liberate salicylic acid.

Another method was to treat salicin ($C_{13}H_{18}O_7$), from willow bark, with fused potassic hydrate. Potassic oxalate and salicylate were formed, and the salicylic acid separated as above. Both of these methods were very expensive, owing to the limited supply of wintergreen oil and of salicin. Chemists, in investigating the properties of salicylic acid, soon discovered that it was closely related to carbolic acid, and went to work to make it therefrom. We see from their formula that salicylic acid ($C_7H_6O_3$) equals carbolic acid (C_6H_6O) plus carbonic anhydride (CO_2). The problem was, then, to bring carbolic and carbonic acids together under such conditions that they would combine in proper proportions to form salicylic acid. This was accomplished by heating together carbolic acid and potassic bicarbonate, in closed tubes, at 160° C. Normal potassic salicylate and water were formed,

$$C_6H_6O+KHCO_3=KC_7H_5O_3+H_2O.$$

This process was never very extensively adopted. It was superseded by the process of Kolbe and Lauteman. Metallic sodium was dropped into hot carbolic acid through which was constantly passing dry carbonic anhydride. The products were hydrogen, sodic salicylate, sodic carbolate, and sodic carbonate, in quantities varying with each experiment. Kolbe noticed that the amount of sodic carbolate diminished and the sodic salicylate increased, if the stream of carbonic anhydride was passed through the retorts for a long time. This led him to devise the process known as " Kolbe's Process " which has replaced all others, because of its cheapness.

Sodic hydrate is accurately saturated with carbolic acid,

$$C_6H_6O+NaOH=C_6H_5NaO+H_2O.$$

This solution is evaporated strictly to dryness, pulverized, placed in retorts, heated to 100° C., and a stream of dry carbonic anhydride passed through the apparatus. The heat is gradually raised to 180° C., when one-half the original quantity of carbolic acid distils over, leaving in the retort a basic sodic carbolate ($C_6H_4Na_2O$),

$$2C_6H_5NaO=C_6H_4Na_2O-C_6H_6O.$$

The carbonic anhydride now unites with the basic carbolate, forming a basic salicylate ($Na_2C_7H_4O_3$)

$$C_6H_4Na_2O+CO_2=Na_2C_7H_4O_3.$$

These two changes occur simultaneously, and the reaction is completed when no more carbolic acid distils at 220° C. to 250° C. This basic salicylate is next treated with hydrochloric acid, forming sodic chloride, and impure dark-colored salicylic acid is precipitated.

$$Na_2C_7H_4O_3+2\ HCl=C_7H_6O_3=2\ NaCl.$$

The crude acid may be purified by sublimation, by crystallization from solvents, or by dialysis. The latter process is said to furnish the purest, while the first is the method usually employed.

We see that the impurities most likely to occur are traces of sodium, chlorine, and carbolic acid.

Coming now to the chemical examination of salicylic acid, we find it to be, when pure, a white solid, " crystallizing in monoclinic, four-sided prisms."

The Dispensatory, 14th ed., states its solubilities as follows: " In cold water, 1 in 600; in boiling water, 1 in 100; in alcohol, 1 in 2; ether, 1 in 5." It is also quite soluble in chloroform and diluted alcohol. The *Pharmaceutical Journal and Transactions* for Nov. 25th, 1876, gives the following solubilities:

1 part of the acid with .75 part potassic citrate dissolves in 100 parts of water, while 1 of acid to 1.50 of citrate dissolves in 7.5 of water. 1 of the acid with 2 of sodic phosphate is soluble in 50 of water, and 1 of acid with 2.50 parts phosphate is soluble in 12.5 of water. 2 parts acid and 1 part borax are soluble in 2 of water, or 4 times the weight of the acid. The chemical reactions for this acid have been very fully explained in NEW REMEDIES for January, 1877. Only those of chief analytical importance will now be mentioned. It melts at about 125° C., sublimes at about 200° C., and when heated, under pressure alone, or in presence of amylic alcohol, it splits into the compounds from which it was formed, namely, phenol (C_6H_6O) and carbonic anhydride (CO_2); heated with fresh lime it forms phenol and calcic carbonate ($CaCO_3$).

Most metallic oxidizing agents change it to formic acid ($HCHO_2$) and CO_2. Nascent hydrogen, from sodium amalgam in *acid* solutions, changes it to salicylous acid ($C_7H_6O_2$),

$$C_7H_6O_3+H_2=C_7H_6O_2+H_2O.$$

Concentrated nitric acid, cold, or hot dilute nitric acid forms " nitrosalicylic acid " ($C_7H_5(NO_2)'O_3$): fuming nitric acid, or a mixture of concentrated nitric and sulphuric acids, forms picric acid ($C_6H_3(NO_2)'_3O$).

$$2C_7H_6O_3+6HNO_3=2C_6H_3(NO_2)'_3O+2CO_2+6H_2O.$$

Phenol with nitric acid also forms picric acid.

Heated with methylic alcohol (CH_4O) (" Wood spirit "), and sulphuric acid, it forms artificial oil of wintergreen, or

methyl salicylate ($CH_3.C_7H_5O_3$). Benzoic acid, with like treatment, gives an ether which has a very similar odor.

Copper sulphate, with sodic hydrate, and salicylic acid forms an "intense blue-green solution, not precipitated by excess of alkali," while sodic salicylate forms a light-green solution. Salicylic acid liberates hydrocyanic acid (HCy) from potassic ferrocyanide (K_4FeCy_6).

The most delicate reaction is with ferric chloride. In slightly acid solutions a beautiful violet or purple color, varying in intensity with the amount of acid present. Carbolic acid gives a similar color, rather more blue, however, but carbolic acid may be distinguished by a number of other distinctive reactions. The color shown by salicylic acid is seen in very dilute solutions, and is prevented or destroyed by presence of much free acid or free alkali. It has been used as an indicator in estimation of acids (*Phar. Jour. and Trans.*, Nov. 11th, 1876, p. 40). The above reactions are sufficient to prove the presence of salicylic acid. Three or four tests of purity are sufficient.

1. It should leave no residue when heated on platinum foil; absence of inorganic bases. Sample wholly volatile.

2. It should give no reaction for carbolic acid by "Prof. Almen's test." Add a little sodic hypochlorite, or a little "bleaching powder," warm slightly, and add excess of ammonia. A blue color changed to a red by acids, and again to blue by alkalies shows carbolic acid, $\frac{1}{50000}$ immediately, $\frac{1}{500000}$ in 24 hours (*Proc. Am. Ph. Ass'n*, 1877). None in sample.

3. "Kolbe's test." Dissolved in 20 parts alcohol, and allowed to evaporate spontaneously; the ring of crystals should be perfectly colorless. This sample is nearly colorless when so tested.

4. "Hager's test." Should give no color with concentrated sulphuric acid. Sample gives no color, or only a very faint tinge when large quantities are tested.

Eight correct analyses have been received, and it has been a difficult matter to choose from these papers. On the whole, those of "Yerba Santa" and "Cresol" are best, hence, the prize will be equally divided between the two. The next sample is organic and pharmacopœial.

"*Selim* I." Carbolic acid, or phenol, is not a true acid, and does not form definite salts. It is formed by substitution of the monad radicle (OH)′ in place of H in benzole (C_6H_6), hence its formula is $(C_6H_5)'OH$. Now salicylic acid is formed from phenol by replacing one atom of H in the remaining C_6H_5 by the monad radicle "*Carboxyl*" (COOH)′. Hence, the formula for salicylic acid is graphically represented thus: $(C_6H_4)'' \begin{cases} OH \\ COOH. \end{cases}$ Now an organic acid is monobasic, dibasic, or tribasic, as it contains one, two, or three carboxyl molecules. Salicylic acid is, accordingly, monobasic. But the H of the "hydroxyl" (OH)′ may be replaced by some bases as well, with formation of very instable compounds, not definite or constant in composition, and decomposed even by carbonic anhydride. These salts are similar, in these respects, to the so-called carbolates.

"*Geo. C. McD.*" Your sample for last month is the only one reported to leave any residue, and a careful re-examination of some of the original substance fails to show any mistake on our part. Mixture by inadvertence must have been made in your sample, as your results seem correct.

Preservation of Leeches.—Leeches may be preserved for a long time by keeping them in water, to every litre of which is added 30 drops of a 3 pr. ct. solution of salicylic acid.

Properties of Dialyzed Iron.—Professor Bouchardat states that, theoretically, dialyzed iron ought to be the least efficacious of any of the preparations of iron, for the following reasons:

1st. Because the so-called dialyzed iron does not pass through the *dialyseur*, and it must therefore be difficult of absorption.

2d. Because, under the influence of minute quantities of alkalies, acids, and divers matters contained in the aliments, it is converted into an insoluble compound.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

No. 323.—**Monsel's Solution.**

In our experience, this keeps perfectly well for a long time without undergoing change. Of course, it should be preserved in properly stoppered bottles. Light has no effect upon it.

No. 338.—**To turn Hair a light Golden Color.**

This may be accomplished, with moderate success, by using peroxide of hydrogen solution, a formula for which will be found in our last number, page 122.

No. 342.—**Tamar Indien** consists only of powdered Senna leaves, mixed with an agreeable confection.

This statement is made after a recent interview with the manufacturer in Paris, under circumstances which probably led to a full statement of its composition, and comes to us from Dr. Freeman J. Bumstead, of New York City.

On page 158 will be found a number of formulas similar in their composition to the one referred to.

No. 344.—**Simmons' Liver Regulator.**—A correspondent writes in answer to the above query that it is probably identical with "Simmons' Liver Invigorator," for which a patent was granted in 1872 on the following formula; the language being that of the patentee:

Leptandræ Verginicæ pulverized, one ounce, apothecary's weight.

Cassiæ acutifoliæ pulverized, five ounces.

Aristolochiæ Serpentariæ pulv., two ounces.

Panacis quinquefolii pulv., one ounce.

Aquæ bulliente f. ℥ss. [*one-half a fluid minim (?)*]

Infuse, macerate, agitate for twelve hours, keeping the vat or vessel closely covered. To each quantity of the infusion thus prepared add Spiriti Vini Rectificat. one pint. Bottle and carefully cork.

No. 361.—**To mend India-Rubber.** (H. E. P., Grand Rapids, Michigan.)

The correspondent wishes a preparation which will mend India-rubber goods, either hard or soft. Has tried among many others a solution of crude rubber and rosin in carbon disulphide, but finds it to be of little use.

We doubt whether there is a preparation which will cement together hard or soft rubber equally well. Unvulcanized rubber may be mended or cemented by using the following preparation: Take 16 parts gutta-percha, 4 parts India-rubber, 2 parts common pitch, and one part linseed oil. Melt them together, and use it hot. We have never tried this on hard rubber, but think it may possibly answer. Equal parts of asphaltum and India-rubber melted together might also answer.

No. 362.—**Punch-Essence.**

The following formulas are recommended by Hager:—1. Arrac, 1,000 parts; white French wine, 500 parts; syrup, 750 parts; citric acid and lemon-oil-sugar,* of each 20 parts. Macerate with frequent agitation, then filter. 2. Fresh lemon peel, 15; vanilla, 1; best tea, 5; rum, 500 parts. Digest for one day, filter, and add: rum, 2,500; syrup, 2,500; and citric acid, 17 parts.

For use, one part of the essence should be mixed with 2 parts of hot water.

No. 363.—**Manganese Borate.**

This substance, which is obtained by decomposing manganous salts with borax, and which has the composition

* The pharmacopœial class of Elæosacchara consists of sugar impregnated by trituration with an essential oil. The proportions are 2 grammes of powdered sugar and 1 drop of the essential oil.

MnB_2O_4, forms a white powder, very sparingly soluble in water. As found in commerce, it contains generally some sodium chloride and sulphate, which impurities, however, do not interfere with its technical application. It is used as a *dryer* for oil-colors.

No. 364.—**Cologne.**

Besides the purity and freshness of the essential oils, the quality of the alcohol employed is of the greatest importance. While certain specific odors, as ambergris, musk, tuberose, jasmine, and violet, preserve and diffuse their odor best when dissolved or macerated with very slightly fusely alcohol, other essential oils are much more delicate, and must be dissolved only in perfectly pure and odorless alcohol. In certain mixtures of oils, experience has shown that the addition of a few drops of ammonia improves and increases the flavor, while in others a very small amount of tartaric acid produces a like effect. The following four receipts for cologne are highly recommended by a practical perfumer in Europe :

	I.	II.	III.
Alcohol, pure, 90 per cent	4 litres	3½ litres	12 litres
Oil bergamot	100 gm.	24 gm.	210 gm.
" lemon	100 "	24 "	72 "
" neroli	14 "	12.5 "	8.7 "
" cloves	6.5 "	12.5 "	16.5 "
" lavender	36.5 "	45 drops	63.5 "
" rosemary	18.3 "	45 "	35 "
" cinnamon	—	—	3 "
Ambergris	1.5 "	—	—
Tincture of musk	— "	15–20 drops	15 "

IV. Alcohol, pure, 90 per cent, 16 litres. Add to it 34 grammes of oil of rosemary, shake frequently during 5 to 6 days, then add 80 grammes each of oil of bergamot, lemon, Portugal (orange), cedrat, limette (Citrus Limetta), and 32 gm. each of oil of neroli and petit grain.

No. 365.—**Uses of Carbon Disulphide.**

Up to the year 1850, this substance was used exclusively for vulcanizing caoutchouc, but at present its use has become greatly extended. It is now employed for the following purposes :

1. For extracting fixed oils from seeds, etc. This is especially practised in those localities where fodder is cheap, and where, for this reason, the residuary cakes, obtained by expressing the oil from seeds, do not find a market for fodder. These cakes often contain still a large percentage of oil, which may be readily extracted by carbon disulphide.

2. For extracting the fat from wool. The fat is used by soap-makers.

3. For extracting the fat from bones.

4. For the manufacture of soluble spices, from pepper, cloves, garlic, onions, etc.

5. For preparing potassium ferrocyanide by Gelis' method, the carbon disulphide being first converted into ammonium sulphide.

6. For purifying paraffin by Alcan's method.

7. As fuel in certain steam-engines.

8. For purifying amorphous phosphorus.

9. In the preparation of Greek or Phœnician fire, being a solution of phosphorus in carbon disulphide.

10. For the destruction of certain noxious insects and animals, as the Phylloxera vastatrix, rats, mice, weevils, moths.

11. For preserving meats, fruits, and other perishable substances.

12. For the preparation of potassium xanthogenate, which is used as a destroyer of the potato-bug, vine-bug, etc.

13. For the extraction of sulphur from certain minerals.

14. As a solvent for india-rubber, wax, and many other bodies.

No. 366.—**Baking Powder** (Sanapee, Altona, Ill.).

What is the composition of the *best* baking powder ?—We do not know which may be the *best* baking powder for all practical purposes. But if made according to the following formula, it will be a *good* baking powder. Take of *well* dried and finely powdered tartaric acid, 8 oz., sodium bicarbonate, 12 oz., and corn starch, 12 oz. Powder 1 oz. of perfectly clean lumps of carbonate of ammonium, mix it with the corn starch, and sift through a fine sieve. Then mix this intimately with the other ingredients, sift again, and put up in air- and water-tight packages.

No. 367.—**Arnold's Black Writing Fluid** (Sanapee, Altona, Ill.).

This is a mixture of indigo-carmine and ordinary ink. It flows freely from the pen, and at last becomes very black. The complaint was made formerly that it was very acid, and therefore destructive to steel-pens ; we believe this is not the case at present.

No. 368.—**Bluing-Solution** (Sanapee, Altona, Ill.).

What is the best means for holding indigo blue in watery solution ?

The only form in which indigo blue is soluble in water is the so-called indigo-carmine, which is prepared by dissolving indigo in Nordhausen sulphuric acid, saturating the solution with potash, and then adding some saline substance, as sodium carbonate, which causes the indigo-carmine to separate as a doughy mass. The process is described minutely on page 183 of our last volume (1877).

No. 369.—**Fluid Extract of Senna** (F. N., Louisville, Ky.

How may fluid extract of senna be made with the non-griping principle extracted ?

The griping constituent of senna is a resin, which may be removed to a great extent by subjecting senna leaves to the action of alcohol of 90 per cent. One part of senna leaves, best in coarse powder, are packed in a percolator ; 5 parts of 90 per cent alcohol are poured on top, and the whole left at rest for about two days. The alcohol having then been allowed to run off, one part more of fresh alcohol is slowly poured over them, to displace the first portion. Finally, the moist senna is removed from the percolator and the remaining alcohol expressed. Afterwards the senna is dried. A fluid extract prepared from such de-resinated senna, by any approved process, will have no griping properties. Senna yields to 90 per cent alcohol about 10 per cent of constituents which are medicinally inactive.

No. 370.—**Suppositories.**

We have had several inquiries lately about suppository-moulds, among them for "Murray's" mould. We can, however, find nobody who can give us any information about the latter.

No. 371.—**Cod-Liver Oil with Hypophosphites and Whiskey.**

The following makes a nice and palatable emulsion :

Ol. Morrhuæ	4 fl. ℥
Pulv. Acaciæ	2 ℥
Syrup Pruni Virg.	2 fl. ℥
Spts. Frumenti	1½ fl. ℥
Calcii Hypophosph.,	
Sodii Hypophosph.	āā 1 ℥
Ol. Gaultheriæ	24 ♏
" Amygdalæ amar	10 ♏
Aquæ, q. s. ad	12 fl. ℥

Dissolve the hypophosphites in the water. Rub the powdered gum arabic with a little of the water to a paste, then add a small quantity of the cod-liver oil, and triturate thoroughly. Again add a little of the water, and then some of the oil, alternately, under constant trituration, until they are thoroughly emulsionized. Dissolve the essential oils in the whiskey, mix this with the syrup, and incorporate the latter with the emulsion first formed.

No. 372.—**Phosphoric Acid.**

We strongly advise you not to use any glacial acid for preparing the dilute acid of the pharmacopœia. All glacial acid of the market, particularly that in sticks, contains from 10 to 25 per cent of sodium meta- or pyro-phosphate, which is partly the cause of the precipitate formed when mixing dilute phosphoric acid with tincture of iron. That acid which is directly prepared from phosphorus should alone be used. The market now supplies a highly con-

centrated liquid phosphoric acid, spec. grav. 1,700, which is perfectly pure and admirably adapted for all pharmaceutical purposes. When you buy "Diluted Phosphoric Acid," you should either demand a brand which is *known* to be made from phosphorus itself, or should examine it for soda, by precipitating the phosphoric acid with solution of basic lead acetate, filtering, washing, and removing the excess of lead by sulphuretted hydrogen. The filtrate from this is then evaporated to dryness and ignited; the residue is exhausted with water, and this solution again evaporated and ignited, when carbonate of sodium will remain behind, if soda was present.

No. 373.—**Pepsin** (R. M., New York City).

The best process is that of Prof. Emil Scheffer, of Louisville, Ky. It consists in removing the mucous membrane from the fresh stomachs of hogs, chopping finely, and macerating in water, acidulated with hydrochloric acid for several days. The liquid is strained and set aside for a day to settle. An equal bulk of a saturated solution of sodium chloride is added, and the whole thoroughly mixed. After a few hours the pepsin floats on the surface, is removed with a spoon, put upon muslin to drain, and then submitted to powerful pressure. To make saccharated pepsin, the damp pepsin, as taken from the press, is mixed with a known quantity of dry sugar of milk, the whole dried and weighed, the proper proportion of sugar of milk still required added, and the whole then powdered.

No. 374.—**Green Ink.** (X. Y. Z., Otisville, Mich.).

Green aniline (soluble), 2 drachms; alcohol, 14 ounces; glycerin, 2 ounces; mucilage of gum-arabic, 4 drachms; Dissolve the aniline in the alcohol and add the other ingredients [NELSON]. In this case most of the mucilage separates again on standing; nevertheless, it appears to improve the body decidedly.

Klaproth's Green Ink.—Crystallized copper acetate (verdigris), 4; cream of tartar, 2; water, 16 parts. Boil the two salts in a glass or clean copper vessel with the water, until the solution has acquired an intense green color. Then filter, add 1 part of mucilage, and bottle.

Green Chrome Ink.—Potassium bichromate, 10; hydrochloric acid, 10; alcohol, 10; gum-arabic, 10; water 30 parts. The finely powdered bichromate contained in a *capacious* porcelain or stone vessel is covered with the hydrochloric acid. After standing an hour, the alcohol is very gradually and in small quantities added. The liquid must be constantly stirred with a glass-rod, and after each addition of alcohol, the effervescence must be allowed to subside before adding more. To the green liquid thus produced powdered sodium carbonate is added, as long as effervescence takes place. As soon as a permanent green precipitate begins to form, the addition of soda is interrupted, the vessel covered and set aside for a week, the contents then transferred to a filter, to separate the solid salt formed, and the filtrate diluted with sufficient water to give it the proper shade of color. Finally the gum-arabic is dissolved in the liquid. This ink penetrates the paper very energetically, and is almost indestructible.

No. 375. **Insect Poisons.** (T. M., Lawrence, Mass.)

No. 376. **Persian Insect Powder.** (D. T., Decatur, Ind.).—Persian (or Caucasian) insect powder consists of the dried and powdered flower-heads of *Pyrethrum carneum* M. B. and *P. roseum* M. B., growing wild in the Caucasus and South Russia, but also cultivated, partly as ornaments, partly for export, in Germany, Holland, France, etc. Another very active insect-poison is said to be *Pyrethrum cinerariæfolium* Trev., native of Dalmatia, known in commerce as *Flores Chrysanthemi*. The whole flower-heads are usually brought to market, which are powdered by dealers. Insect-powder has a greenish-yellow color and a peculiar aromatic odor, which has a stupefying effect upon lower animals and insects, but is innocuous to man. It may be used in powder or in form of tincture. Good substitutes for the above-mentioned insecticidal plants are afforded by *Anthemis Cotula* L. and *Lepidium ruderale* L. Rosemary will keep out moths, but will not destroy bugs, unless it is quite fresh.

A powder of tobacco and hellebore [veratrum viride?] leaves has recently been used as an insecticide for plant vermin, and would probably serve also for domestic use, but the hellebore is decidedly poisonous, and it is safer to rely upon the ones before-mentioned than risk its presence about the house.

No. 377. **Sanford's Recording Ink.**—Can any one furnish us with the formula?

No. 378. **Injection Brou** (F. B., New York City) consists, according to *Hager*, of: water 100, zinc sulphate 0.5, lead acetate 1, tinctnre of catechu and Sydenham's laudanum, each, 2 parts.

No. 379.—Will the correspondent who sent us a sample for analysis on the 25th ult. please send his name and address also.

Answers are still wanted to queries No. 351, 343, and 345. (See April No.) Can any of our readers favor us?

NOVELTIES.

PERSONS *having* NEW *inventions, processes, and novelties which they may wish to bring to the notice of readers of* NEW REMEDIES, *can do so through this column by forwarding (when it is possible to do so) a sample to the* EDITOR, *accompanied with a suitable illustration, when one is needed to give an adequate idea of the thing described. If it is desired, cuts will be made at the expense of the person furnishing the sample.*

It will be understood that such notices are to be gratuitous; based solely on the merits of the articles submitted, and published as matters of general interest to the readers of the Journal.

All samples and communications must be received before the fifth of the month.

Durand's Breast Pump.

The adjoining illustration is that of a novel breast-pump manufactured by the inventor, Albert A. Durand, of 89 Chambers St. Although the patent for it was granted some time since, it has never before been put into the market. The methods of its construction and use are as follows.—A metallic cup contains another cup of india-rubber, the two being connected at their edges. Inserted into the bottom of the rubber cup is a valve opening outwards, and surrounded with a broad ring of metal, to which the lever (seen in the illustration) is attached. By tilting this lever to one side, the india-rubber cup is raised from its metallic case, and a vacuum is created, and milk is thereby drawn from the breast through a glass nipple, having a connection with the bottom of the metallic cup.

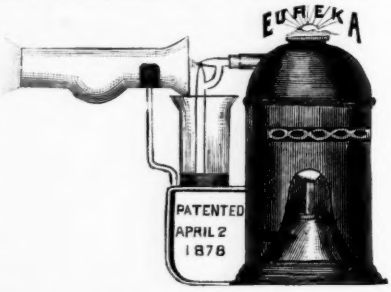
As the lever is allowed to become upright again, the milk flows through the valve into the inside of the rubber cup, and when sufficient has accumulated, it may be emptied out. The different parts are easily separated for the purpose of cleansing them.

This is one of the most easily worked pumps of which we have any knowledge, but we would suggest that, in order to be complete, it should be accompanied by glass nipple shields, of various shapes and sizes, since the failure of most pumps is chargeable less to their capacity for suc-

tion than to the fact that the opening for the nipple is not adapted to the shape of that organ. We believe that in the present case the pressure which the edge of the glass shield would exert upon many nipples would completely arrest the flow of milk through the ducts, in spite of any amount of suction—indeed, an increase in the latter would only cause the nipple to become more firmly impacted in the opening of the glass shield. The distinctive features claimed for this pump by the manufacturer are its intermittent action upon the nipple, and the ease with which it can be operated. Its price ($1.50) is reasonable, and its workmanship and materials excellent.

Weinhagen's New Atomizer.

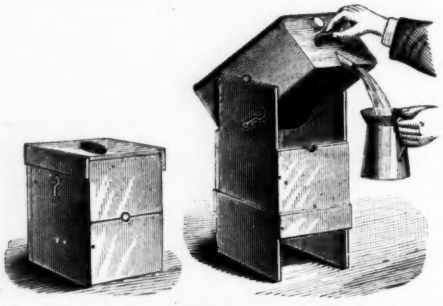
THE atomizer just patented by Mr. H. Weinhagen, of 152 William St., appears to be the best thing for the price that has yet been offered for sale. It is very neatly made



of copper; is convenient in size, simple in construction, easily managed and kept clean, has few parts, makes a good spray, and sells at retail for $3.50. That is all one can reasonably expect.

Coleman's Elevated Swinging Can.

THIS ingenious contrivance for handling cans containing fluids is quite a new thing, and worthy of attention. The packing case is so constructed that it serves to support the can on trunions attached to opposite sides of the latter, and besides protecting the can during transportation, en-



ables the contents to be drawn steadily and without fatigue when in use. The adjoining illustration shows so well the construction and mode of using the case that a description is hardly needed. For further information address John N. Coleman, No. 2 Liberty St., New York.

Soluble Medicated Intra-Uterine Bougies.

SINCE M. Reynal, of Paris, introduced this method of applying remedies to the canal, of the uretha and uterus, it has grown quite popular, and the manufacture of the bougies has been undertaken by a considerable number of persons. Mr. Charles L. Mitchell, of Ninth and Race Sts., Philadelphia, has recently introduced a line of these goods of which he furnishes us samples containing two grains of zinc acetate, and a list of twenty other varieties, all specially adapted for the treatment of intra-uterine affections. We are very well pleased with the appearance of the samples received, and from the experience we have had in using similar preparations, can confidently recommend their use.

The "Bartlett" Tap.

THIS is a new style of champagne tap, just is sued by R. G. Hutchinson, of 44 Maiden Lane, who has an extensive line of this class of goods. The use of taps which can be driven through the corks of bottles containing effervescent drinks is of great service, since it enables as small a quantity as may be desired to be taken at one time without the balance becoming flat and stale through loss of its carbonic acid. The expensiveness of most of these taps has, however, been an obstacle to their use, and others have failed

to become popular through their liability to get choked with bits of cork or through the inefficiency of their screw points.

There is another variety of tap not quite so recent in construction as the "Bartlett," which Mr. Hutchinson also manufactures, and which has in our hands been the most satisfactory of any we have yet used. It is driven through the cork like a trocar andnot like a gimlet, and owing to the direction given to the holes which admit the fluid to its bore, it is less liable than screw-taps with side openings to become stopped with cork fragments.

Warner's Pill-Printing Machine.

THE necessity for protecting his wares from fraudulent imitation has led Mr. Wm. R. Warner, of Philadelphia, to invent a machine whereby his name and trade-mark may be imprinted on the surface of each sugar-coated pill of his manufacture. This seems to be a very much more practical way of preventing fraud than the use of a distinctive mark on the bottle only, but there is a question whether it does not render the uses of the process liable for a stamp duty on every pill, which would be rather expensive in the end.

The excellence of the sugar coatings of the pills made by this firm ought of itself to be sufficiently distinctive for ordinary purposes, but it is quite probable that in many cases very inferior imitations may be sold as genuine, and we hope in the interests of all concerned, that the stamp duty on the package may be considered to cover the rights of the Treasury Department in the matter.

The sample which has been sent to us has the word "Warner," printed in blue by a very simple yet ingenious mechanism, on the surface of each dragé. Whatever objection there may be to printing the name of the remedy where the patient may read it, this surely can have no force as applied to the name of the manufacturer.

Refined Catechu.

THE impure condition of the catechu, as found in the market, is well known, and has often caused us to wonder how some lots could have been passed through the custom-houses, in view of the vile condition in which the article was imported. Pharmacists in particular have to labor under some disadvantage when making preparation from the drug, as they are almost compelled to use the crude drug, of which variable percentages of inert or foreign matters are afterwards left as residue. The officinal catechu, or the dark-brown cutch, from *Acacia Catechu* Willd, and *Acacia Suma* Kurz, should be purified before being used in medicine. We are led to make these remarks by a sample of *Refined Pale Catechu* which we have received from the manufacturers, Messrs. Wells, Richardson & Co., of Burlington, Vt., and which has been freed from foreign matters and impurities. This pale catechu is the so-called

gambier, derived from *Nauclea Gambir* Hunter, is very rich in tannin, whence it is much used by dyers, etc., but is *not the officinal* catechu. There is no reason, however, why it may not be placed on a level with the officinal article.

Cooke's Prescription Stamp.

We have noticed the india-rubber hand-stamps made by G. K. Cooke & Co., of 92 Chambers St., New York, which are rapidly being adopted for a great variety of purposes. The adjoining illustration shows a recent invention which will be of especial service in numbering prescriptions. The letters and figures are cast upon elastic bands, which can be rotated by means of milled wheels, so as to present their faces at the lower opening. The stand which supports the stamp has an ink-pad in its bottom, on which the type rests, so that it is only necessary to keep the pad inked, to have the stamp ready for use at any moment. The following is the sign and style of the impression it gives. The price is $8.00.

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Laboratory Vintage.—The chemists of Berlin have been occupied lately in analyzing the wares of the wine merchants, and no little excitement has been caused by the discovery that the entire stock of one of the largest houses dealing in wines for medicinal purposes consisted entirely of artificially prepared mixtures of spirit and sugar solutions, flavored with various herbs.

Pepsine from the Ostrich's Stomach.—According to the *Revue des Deux Mondes*, the ostrich hunters of South America, bearing in mind the almost incredible digestive powers of that bird, extract the pepsine from its stomach, and sell it for its weight in gold to dyspeptics.

A Remedy for the Eruption produced by Poison-Oak.—Dr. S. A. Brown, U.S.N., writes to the *Medical Record* that he has found in bromine a specific to the eruption produced by the poison-oak or poison-ivy. He says that he has used it with unvarying success in at least forty cases. The eruption never extends after the first thorough application, and it promptly disappears within twenty-four hours, if the application is persisted in, and thepatient is entirely cured. He uses the bromine dissolved in olive oil, cosmolin, or glycerin, in the strength of from ten to twenty drops of bromine to the ounce of oil, and rubs the mixture gently on the affected part three or four times a day. The bromine is so volatile that the solution should be renewed within twenty-four hours from its preparation.

Sclerotinic Acid for Hypodermic Injection.—Professor Dragendorff says that sclerotinic acid, which is separable by means of alcohol, is a more powerful and less irritating remedy for hypodermic injection than ergotin. [The latter is at best but an uncertain product].

PRESCRIPTIONS AND FORMULÆ.

Formulæ of Secret Medicines.

(*Continued from page* 124.)

Britannia Silver.—Under this name there is now being offered to the public at Vienna, and probably elsewhere, under the misleading recommendation that it is a perfect substitute for silver, a heterogeneous metallic composition, in the form of spoons, forks, candlesticks, cups, etc. The Britannia silver is sometimes, or always, light, silvered. Britannia metal (an alloy of 86 tin, 10 antimony, 3 zinc, 1 copper; or of 2 copper, 6 zinc, 21 antimony, 71 tin; or of 1.84 copper, 81.90 tin, 16.25 antimony, and 1 zinc). One firm announces that Britannia silver is silver-white throughout, a color which can only be obtained in similar alloys by the addition of arsenic. Another firm sells candlesticks of inferior packfong as Britannia metal, and another actually sells tinned Bessemer steel-plate cups as guaranteed Britannia silver.—*Ackerman.*

Bromochloralum (Tilden & Co., New York), for the removal of bad smells, as a disinfectant and antiseptic. A fluid, sp. gr. 1.43, containing 27.5 per cent of solid matter. The latter consists of 18.5 per cent of aluminium chloride, with chalk and a considerable quantity of alkaline salts. Free bromine is not present.—*H. Endemann.*

Bromthee—Bramble Tea (?)—is a mixture of 5 parts linden flowers *cum bracteis*, 5 parts senna leaves, 5 parts acacia flowers, 8 parts cort. frangulæ, and 2 parts sassafras chips. —*Hager.*

Bruchbalsam—Rupture Balsam (Dr. Tänzer).—No. 1: Compound rosemary cerate, nutmeg cerate, red Johannis oil, yellow wax, of each 1 part; fat, 5 parts. No. 2: Mixture of nutmeg cerate, 50 parts; tallow, butter, of each 10 parts, melted and mixed with 25 parts strongest liquor potassæ. No. 3: Compound rosemary cerate, oil of bayberries, of each 2 parts; nutmeg cerate, 4 parts; red Johannis oil, 6 parts; yellow wax, 3 parts; tincture of myrrh and tincture of aloes, of each ½ part; tr. opii, ¼ part, melted and heated until the spirit has evaporated.—*Hager.*

Bruchpflaster—Rupture Plaster (Krüsi Altherr). — A spread plaster, the mass consisting of 5 parts Burgundy pitch and 2 parts turpentine.— *Walz and Hager.*

Bruchpflaster—Rupture Plaster (Casper Menet).—Machine-made paper covered with thin gauze, and thinly spread with a mass of 9 parts wax, 3 parts turpentine, and 1 part elemi.—*Hager.*

Bruchsalbe — Rupture Cerate (Gottlieb Sturzenegger, Herisau, Canton Appenzell).—A mixture of 50 parts fat and 1 part oil of bayberries.—*Hager.*

Brüche. Ruptures cured without medicine, operation, or pain, by Lavedan, chemist.—A pelotte containing in it zinc and copper plate on which a solution of the "poudre electrochimique" (common salt) is dropped. Price 15*s.* to 18*s.*; worth about 1*s.*—*Hager.*

Brustbonbons — Pectoral Bonbons (Fr. Stollwerck, Cologne).—Carageen, 3 parts; Iceland moss, 2 parts; red poppy petals, 1½ parts; coltsfoot, 1 part; licorice, 2 parts; marshmallow root, 2 parts; daisy (*Bellis perennis*), 1½ parts; Souchong tea, 1 part; boiled with 24 parts of water till reduced to half, and the fluid afterwards mixed with refined sugar. Twenty-four packets (80 grammes), 5*d.*

Brustgelee—Pectoral Jelly (Daubitz, Berlin).—A yellowish-brown nearly clear jelly, with a sweet, weak anise, followed by a somewhat bitter taste, made of gelatine, 12 grammes; sugar, 60 grammes; and a herbal infusion, 120 grammes; the latter made from anise, staranise, Iceland moss, etc. 210 grammes, 1*s.*—*Hager.*

Brustpulver — Pectoral Powder (Beliol, Paris).— For chronic pains in the chest. A mixture of 75 parts milk sugar, 20 parts gum arabic, 5 parts Rochelle salt.—*Mayer.*

Brustsaft, Präparirter—Prepared Pectoral Juice (Rudolph Büttner, Berlin.)—For coughs, hoarseness, tightness

of the chest, etc. An ordinary pectoral tea made of an infusion of red poppy petals, which is boiled to a syrup with sugar.—*Hager.*

Brustsyrup, Weisser Mayerscher—White Pectoral Syrup (G. A. W. Mayer, Breslau).—4 parts powdered radish extracted with 5 parts water (according to others rosewater), the liquor expressed and filtered. Six parts of the clear liquor digested with 10 parts of sugar to make a syrup.—*Hager.* Frequently nothing but a simple solution of sugar.

Brustsyrup—Pectoral Syrup (Dr. Moth).—A mixture of syrup of marshmallow, 1,000 parts; extract of horehound, 30 parts; oxymel of squills, 50 parts; aq. amygd. amar., 25 parts; aqua fœnic. 100 parts; spirit of ether, 10 parts.

Brustwarzen—Mittel zur Heilung wunder.—Remedy for healing sore nipples. (From Paris.) A dirty brownish-yellow, somewhat turbid liquid, smelling of vinegar, and with a taste both sour and sweet. A solution of 1¼ parts litharge in 100 parts vinegar.—*Wittstein.*

Brustwarzen—Mittel gegen Wunde.—Sore nipple preventative. (From Paris; sold by the successor to Frau D.) Acetic acid, 1 part; sugar of lead, 3 parts; camphor, 5 parts; water, 100 parts.—*Terreil.*

Brustwarzenbalsam, Rigaer—Riga Nipple Balsam.—A mixture of the yolk of one egg with 10 to 12 grammes balsam of Peru.

Buckingham's Dye for the whiskers; manufactured by R. F. Hall & Co., Nashua, N. H. This whisker dye is an ammoniacal solution of nitrate of silver, and consists of ½ gramme nitrate of silver, 2½ gramme solution of ammonia, and 40 grammes distilled water.—*Dr. Schacht.*

Butter-preservative Paste (from Spaa).—Consists of common salt, 52 parts; nitre, 23 parts; syrup, 5 parts. 1 pound.—*Wittstein.*

Butter-Coloring (from Paris).—A mixture of 40 per cent of chrome yellow, with some fat colored with annatto.—*Flückiger and Weil.*

Butter Powder (from the Adler-Apotheke, Emmerich on the Rhine).—Bicarbonate of soda, 500 grammes.—*Dr. U. Kreusler.*

Butter Powder (Lemmel, Schleswig-Holstein).—An impure bicarbonate of soda, colored with turmeric. A packet of the powder, weighing 120 grammes, costs 6*d.*, a kilogramme costs 3*s.* 6*d.*—*Hirschberg.*

Schührer's Butter Powder (Emil Schührer, Mutzschen, Saxony).—This, it is claimed, will considerably increase the yield of butter, shorten the process of churning, and yield a product which will be firm even in the height of summer, well-flavored, of a handsome color, and of excellent commercial value. It consists of a tolerably pure commercial bicarbonate of soda, with ½ per cent of powdered turmeric.—*Dr. Peters.*

Tomlinson's Butter Powder.—Tomlinson & Co., Lincoln, England).—Ordinary bicarbonate of soda, colored with ¾ per cent of annatto.—*Dr. Karmrodt.*

"*Caffee-Surrogat von Pisoni*"—*Pisoni's Coffee-substitute.*—A dry extract prepared by boiling roasted and ground chicory in water, evaporating the fluid to the consistence of a stiff extract, and drying it.—*Wittstein.*

California Vegetable Vinegar Bitters (Dr. J. Walker).—Recommended for weak stomachs, sluggish digestion, diarrhœa, consumption, and many other totally distinct and opposed diseases. Each bottle contains 420 grammes of fluid weakly acid, and containing no spirit, which throws down, on standing, a copious deposit. The well-shaken liquid gives, on evaporation, 31 grammes of residue, consisting of 12.6 grammes mucilage, 8.9 grammes resin, and 10 grammes extractive (including an organic coloring matter). It is a decoction in weak vinegar of guaiacum wood, sarsaparilla, China root, sassafras, and golden seal (Hydrastis Canadensis), etc.—*Hager.*

Norton's Chamomile Pills (Norton, Beccles, England).—A remedy for digestive troubles and all kinds of stomach complaints. They consist of equal parts of rhubarb and jalap made into a mass with extract of chamomile.—*Schädler.*

Camphor Cigars (Raspail, Paris).—A remedy for various chest diseases, such as catarrh, hoarseness, loss of voice, coughs, spasms, whooping cough, phthisis; also, if the saliva be swallowed, for heartburn, pains in the stomach, and gastritis. They consist either of a straw or quill filled with broken camphor, or of a bone or horn mouthpiece, furnished at the outer end with a little capsule for the camphor.—*Wittstein.*

Coler's Camphor Milk—A Cosmetic (Coler, 6A Schützenstrasse, Berlin).—It consists of 10 grammes precipitated zinc oxide, 180 grammes rosewater, and 5 grammes spirits of camphor. The maker attributes to the preparation much greater powers than it really possesses. The label announces:—"This preparation, manufactured entirely with harmless ingredients, removes with certainty all skin diseases, such as freckles, lentigo, heat-spots, red and yellow marks, herpetic and scrofulous eruptions, and gives the skin a natural clearness and bloom. It must be well shaken before using, and should be applied to the affected places with a fine linen cloth. For washing, the use of my glycerine and borax soap is recommended."—*Schädler.*

Moth's Capsules.—Gelatine capsules filled with balsam of copaiba.

Capsules Lehubi are gelatine capsules of different sizes, each consisting of two parts. To close them, one half is pushed over the other.

Capsules de Raquin.—Copaiba balsam solidified with calcined magnesia, inclosed in a gelatine capsule.

Carbolic Salve (John F. Henry).—This salve, a North American preparation, is recommended for healing all wounds, sores, skin diseases, etc. The recipe is much as follows:—Carbolic acid, .3 grammes; oil of bergamot, 2 drops; oil of lavender, 1 drop; wax ointment, 18 grammes; mix.—*Hager.*

Carbolein (Weschniakoff, St. Petersburg).—A fuel said to possess a greater heating power than pit coal, and to effect a considerable economy in cost, on account of the smaller quantity required. It consists of black, moderately hard pieces, containing 92 per cent of pit coal and 8 per cent of fat.—*Kaiser.*

Carignano Powder, made (according to a recipe said to have been given to MM. Pyat and Deyeux by the Princess Carignano) from gamboge, 250 grammes; amber, 375 grammes; red coral, 125 grammes; bole, 125 grammes; vermilion, 12 grammes; Kermes mineral, 12 grammes; boneblack, 12 grammes. The powder, when mixed, is divided into portions of .1 gramme each.

Cascarilla de Caracol de Persia (R. & C. A. Wright, Philadelphia).—Consists of calcium carbonate and some earthy substances insoluble in acids (alumina or steatite). No hurtful metals are present.—*Chandler.*

C. C. C.—Cordial Drink (Dr. Cherway).—A herbal lemonade to heal all chronic and scrofulous diseases. It contains 115 grammes water, 15 grammes spirit, 2 grammes potassium iodide, 5 grammes bitter almond water, 10 grammes sugar, and 3 grammes burnt sugar.—*Hager.*

Cedern Essenz (Sommer).—A week spirituous tincture (made with rum) of senna leaves, rhubarb, buckbean, saffron and traces of spices, 50 grammes.—*Hager.*

Gray's Celebrated Hair Restorative (Day, Hoagland, & Stiger, New York).—Contains in 100 grammes a trace of lead in solution, and .693 gramme in the precipitate.—*Chandler.*

Ceresin, the cheapest substitute for wax, specially suited for all pomades, ointments, cerates, and plasters (John Faukal, Vienna).—A slowly-cooled paraffin of high melting-point, in thin round cakes.—*Hager.* Bleached Ozokerit.—*Dr. Ziurek.*

China-eisen Syrup (Grimault & Co., Paris).—Ammoniocitro-pyrophosphate of iron, 1 part (or ⅔ part ferri pyrophosph., ⅓ part acid citric, and ⅓ part pyrophosphate of sodium) is dissolved in 22 parts of water, the solution filtered, 40 parts of sugar and 5 parts tincture of red cinchona are added, and a syrup is made by digestion.

Chinese Secret Remedies (Dr. Schöpfer).—

1. *Tsa-tsin.*—The very finely powdered leaves of a kind of Roman chamomile, or a species of goose foot.

2. *Scheu-fu.*—Mugwort root disguised by the addition of turmeric.

3. *Ying-kuei-tsum.*—The mixed leaves and flowers of Roman chamomile and wood sage, with but little else.

4. *Hienfong Tincture*, said to contain hienfongin, and to be an eth real spirituous tincture of the green leaves of the Hienfong camphor tree. It is, in fact, an extremely diluted spirituous tincture from the "Farbenintensivität" of a clear white wine of the dried fruits and leaves of the bayberry, mixed with about 8 per cent ether, 1½ per cent camphor, 1 per cent oil of spearmint, 1½ per cent oil of peppermint, and ¼ per cent each oils of fennel, anise, lavender, and rosemary.

Chloralum (from London).—A harmless, inodorous, non-poisonous disinfectant, for disinfecting privies, water-closets, stables, slaughter-houses, gutters, etc., and for external and internal use in sore throat, diphtheria, scarlet fever, smallpox, and so forth. Half a litre of fluid weighs 600 grammes and contains per cent 82.32 water, .15 lead chloride, .10 copper chloride, 13.90 aluminum chloride, .42 chloride of iron, and 3.11 chloride and sulphate of calcium. It may be made either by dissolving a calcareous and slightly ferrugineous hydrate of alumina in crude fuming hydrochloric acid (Fleck) or by the double decomposition of an impure alum with impure chloride of calcium.—*Hager.*—*Fleck.*

Chloraluminiumhydrat (Erhardt & Alexander, New York).—A disinfectant. A yellow fluid, specific gravity 1.25, containing 28 per cent solid constituents, made up of 21 per cent aluminium chloride, with chlorides of iron and calcium.—*H. Endemann.*

Chloralum Powder (from London).—Recommended as an absorbent of organic impurities; as an antiseptic and astringent, mixed with flour and taken; also as a disinfectant for railway wagons, ships, privies, stables, gutters, etc. An elegantly-labelled tin, containing 350 grammes of a white powder, consisting in 100 parts of .72 chloride of arsenic, .55 chloride of lead, .37 chloride of copper, 52.43 chloride of aluminium, 1.55 chloride of iron, 11.51 chloride of calcium, .72 gypsum, 32.15 alumina and siliceous earth. According to Fleck, it is the precipitate which separates during the preparation of chloralum evaporated with the supernatant fluid in lead pans to dryness. Price 10*s.* 6*d.* (per cwt. ?). According to Hager it is a dry, yellowish-gray powder, only partly soluble in diluted hydrochloric acid, smelling faintly of pure carbolic acid, and made from a clayey marl drenched with crude concentrated hydrochloric acid, and then mixed with enough of the marl to make a dry powder, which is finally sprinkled with a little carbolic acid.

Chloralum Wool and Wadding (from London).—Recommended for filtering air; as a styptic and antiseptic for green or suppurating wounds and ulcers; and as a disinfectant for coffins and corpses. A neatly-labelled package, containing 35 grammes wadding, mixed with 1.73 grammes solid chloralum or saturated with 9.8 grammes of the fluid, and afterwards dried.—*Fleck.*

Chloralyde.—A new English specialty, invented by Dr. Barr Mitchell and sold by Butler & Crisp. According to an English authority it is a strong solution of chloral hydrate in about the proportion of 1 to 1. The taste is well concealed, and the solution is mixed with other ingredients, which give it to a certain degree the character of chlorodyne.

Chlorodyne (Dr. Browne's).—Acid muriat. conc., 5 parts; ether, chloroform, tinct. cannab. ind., tinct. capsici, of each, 10 parts; morphia, prussic acid, of each, 2 parts; oil of peppermint, 1 part; syrup, 50 parts; tinct. hyoscyami, tinct. aconiti, of each, 3 parts.—*Hager.*

English Chlorodyne.—A filtered mixture of 5 grammes tinct. aromat., 4 grammes tinct. opii simp., .1 gramme morph. mur., 10 grammes aq. amygd. amar., 80 grammes syrup of licorice, 1 gramme extract of licorice, 40 grammes 90 per cent spirit of wine, 5 drops oil of peppermint, 10 drops ether, 30 drops chloroform.—*Hager.*

Chloroformic Anodyne (George Harley) is said to be an alcoholic tincture of opium with prussic acid and chloroform.

Glover's Chloroformium Phosphoratum.—A solution of 1 part of phosphorus in 40 (?) parts of the chloroform.

Chocolate à la Magnésie (Desbrierre's).—44 grammes of chocolate paste and 15 grammes of calcined magnesia, made into two tablets.—*Reveil.*

Cholera Essence (Ed. Kantorowicz, Berlin & Posen).—A filtered tincture of 15 grammes lesser centaury and grammes of ginger, made with 500 grammes of alcohol and 250 grammes of water, and mixed with 20 drops oil of wormwood.—*Hager.*

Cholera Medicine (Schneider, Chrostowo, near Usez).—The expressed juice of dandelion and milfoil mixed with brandy spirit.—*Dr. Horn.*

Choleratropfen—Cholera Drops (A. Bastler, Vienna).—Oils of anise, cajuput, and juniper berries, of each 20 parts; spirit of ether, 60 parts; tincture of cinnamon, 120 parts; Haller's acid elixir, 5 parts. Dose, 30–50 drops.—*Wittstein.*

Christofia is a stomachic brandy or wine made of 1,500 parts white wine, 20 parts cinnamon, 10 parts cloves, 60 parts bitter almonds, digested several days; 300 parts of sugar and 500 of spirit are then added, and the whole filtered.—*Hager.*

Chrômacome (Mr. W., Paris).—For dyeing the hair black. This is said to be prepared from harmless vegetable materials, but really consists of pyrogallic acid and nitrate of silver.

Chrômacome (obtained from Gustav Lohsé, of Berlin).—This is a French preparation which "contains nothing injurious to health." This hair dye consists of two fluids. The first, "Le chrômacome, teinture supérieure de William W. A. T., No. 1, Bonn," weighing about 45 grammes, is tincture of galls. The other, No. 2, is a solution of acetate of iron with a little nitrate of silver. When gray hair is moistened first with No. 1, then with No. 2, it becomes blackish-brown or black. Terreur, hairdresser, 117 and 119 Rue Montmartre, Paris, is the chief agent for this preparation.—*Schädler.*

Circassia-wasser—Circassian Water (A. Ruoff, Heilbronn).—A cosmetic consisting of strong alcohol, 60 parts; oils of cinnamon, cloves, and bergamot, of each, 9 parts; oil of lavender and balsam of Peru, of each, 4½ parts.—*Wittstein.*

Circassian Hair Rejuvenator (Pearson & Co., Brooklyn, New York).—A muddy solution containing about 4 per cent of sugar of lead.—*Chandler.*

Comachrome for Dyeing the Hair Black.—Nitrate of silver solution, with pyrogallic acid.—*Reveil.*

Compensation-Extract.—One of C. Simon's fluid remedies (from Carl Simon, Veterinarian, Lissa, Poland). Recommended for pains in the joints, sciatica, lumbago, migrain, rheumatism, stiff joints, pleurisy, and cramp. It contains 30 grammes common salt, 8 grammes ammonia, 15 grammes spirit of camphor, 35 grammes tincture of arnica flowers in weak spirit, strained, but not filtered, 2 grammes ether, and 160 grammes water. 3*s.* More lately it is found to contain 40 grammes common salt, 40 grammes spirit of ammonia, 40 grammes spring water, 10 grammes Hoffman's balsam of life.—*Hager.*

Compound Chinese Tablet of Alabaster (John Irvine).—A cosmetic powder for the skin. It consists of chalk, free from injurious metals.—*Chandler.*

Compound Sugar-coated May-apple Pills (Dr. Scott).—Recommended as "antibilious, cathartic, chemical family pills." A round wooden box containing twenty-one beautifully-made sugar-coated pills, consisting of bitter extract, powdered podophyllum root, rhubarb, jalap, and pepper.—*Hager.*

Compresses Désinfectantes de Le Perdriel.—Charcoal powder incorporated with paper.

Concentrated Castor Oil in Capsules of Gelatine (Taylor).—24 gelatine capsules filled with castor oil, containing 5 per cent of croton oil.—*Hager.*

Condy's Fluid (from England).—A weak solution of permanganate of soda.—*Wittstein.*

Conservateur für Haarleidende.—A preventive of hair diseases (Edm. Bühligen, Leipzig).—Consists of ten grammes tinct. arnicæ, 5 grammes glycerin, 10 grammes spirit, and 60 grammes water.—*Schädler.*

Vegetable Constitution Balls (A. H. Bôldt).—Two par-

allelepipedal hard brown balls, each of which weighs 58 grammes, and is made by melting together 2 parts of aloes and 1 part coarsely-powdered gentian.—*Hager.*

Copahine.—Copaiba balsam made into a mass with wax and powdered cubebs, divided into hard egg-shaped pills weighing 5 decigrammes each and sugar coated.

Copahine Mège de Jozeau.—A fixed quantity of copaiba balsam is mixed with concentrated nitric acid, and constantly stirred as long as effervescence continues. The oxidized balsam is then washed, first with warm, then with cold water, till the washings cease to have an acid reaction. From one part of this balsamum copaivæ acido nitrico correctum with $\frac{1}{10}$ part powdered cubebs, $\frac{1}{10}$ part bicarbonate of soda, $\frac{1}{16}$ part calcined magnesia, with some mucilage, a mass is prepared and divided into oval pills, which are afterwards coated with sugar mixed with gum and carmine.

Cosmetic Vinegar (Acetum cosmeticum) is a mixture of tinct. benz., 60 parts; bals. Peruv., 10 parts; eau de Cologne and bals. vitæ Hoffm. ph. bor., āā 150 parts; aceti puri, 300 parts; allowed to precipitate and filtered clear.

Dr. Henry's Cosmeticum :—for scalp diseases and application for the hair. Spirit, 180 parts; oil of lemon, 3 parts; oil of bergamot, oil of rosemary, and oil of lavender, of each, 1 part.—*Hager.*

Cosmeticum (Siemerling) for skin affections, freckles, etc. Sweet almonds, 30 grammes; bitter almonds, 15 grammes; blanched and emulsified with 330 grammes water; the emulsion strained and mixed with 25 grammes tinct. benzoin and 15 grammes lemon juice.—*Wittstein.*

Cosmolin.—Under the names of Cosmolin and Vaselin some fatty substances melting at 32° to 85° or even 95° C. have lately appeared in commerce. They are very variable mixtures of solid paraffin, with the fluid introduced at various times as paraffin oil, neutral oil, lubricating oil, etc., and are the residues left after the distillation of petroleum slightly purified by means of charcoal.—*Miller.*

Cosmos Pomade (J. Pohlmann, Vienna), 1½ parts white wax, 3 parts spermaceti, 2 parts castor oil, 8 parts almond oil, 2 parts glycerin, 9 parts extract of mignonette, 1½ parts eau de Cologne.—*Hager.*

Crême de Beauté.—A cosmetic consisting of an emulsion of bitter and sweet almonds.

Damenpulver—Ladies' Powder (J. Pohlmann, Vienna).—A face powder, composed of 14 parts white lead, 7 of talk, 1 of magnesia, colored with carmine, and perfumed with volatile oil.—*M.*

Davids-thee—David's Tea (B. Fragner, Prague).—Recommended as a domestic remedy for chronic catarrh of the lungs and air passages, and especially for tuberculosis. A mixture of equal parts of great centaury, hyssop, chervil (Scandix odorata), white horehound, milfoil, Iceland moss, and carduus benedictus.—*Th.*

Davids-thee, echter Karolinenthaler—Genuine Karoline's Dale David's Tea (Kràl).—Recommended for the same diseases as the preceding. A mixture of white horehound, milfoil, Iceland moss, great centaury, and ground ivy. According to a communication from a Bohemian apothecary, the original prescription reads thus :—Herba cerefolii (Scandicis, chervil), hb. centaurii minoris (lesser centaury), hb. marub. (horehound), flor. millefol. (milfoil flowers) lichen Isl., of each 6 parts; hb. hyssopi, 3 parts; hb. cardui benedicti, 2 parts.—*A. Selle.*

Delphineum—A Boot Varnish.—Shellack, 7.5 grammes dissolved in alcohol, 15 grammes, mixed with 20 drops fish oil, and one gramme lampblack.—*Geisse.*

Derby Condition Powders (J. Tobias Simpson, New York).—Celebrated as a safe, infallible, and speedy remedy for glanders, coughs, colds, over feeding, worms, mouth disease and loss of horns or hair, in horses and other valuable domestic animals. Tartar emetic, 2 grammes; black antimony, 20 grammes; sulphur, 10 grammes; nitre, 10 grammes; fenugreek, 40 grammes; juniper berries, 20 grammes.—*Schädler.*

Dutch Drops.—The dark-colored residue left by the dry distillation of turpentine.—*Hager.*

(*Continued from the Chemist and Druggist.*)

Fuller's Tamarind Electuary.—

White sugar	10 parts.
Manna	25 "
Boiling water	50 "

Dissolve and filter. When cold, add

Tamarind pulp, purified	15 parts.
Potas. bitartrate	1 "
Senna leaves, powd	4 "

The finished product should weigh 100 parts.

Electuarium Sennæ Compositum. (*French Pharm.*)—Also known as: Electuarium lenitivium; Confection of Senna; Tamarind Marmelade, etc.

Barley	60 parts.
Polypody root	60 "
Licorice	30 "
Hart's tongue root (Scolopendrium)	45 "
Mercury plant (Mercurialis annua)	120 "
Dry raisins	60 "
Powd. senna leaves	150 "
" fennel	10 "
" anise	10 "
Jujube	45 "
Senna leaves, whole	60 "
Cassia pulp	200 "
Tamarind pulp	200 "
Prune pulp	200 "
Sugar	1200 "

Boil the barley in water, then add the polypody, and finally the licorice, hart's tongue, mercury plant and the raisins. Strain and express. Make a dilute decoction of the senna, and add the liquid to the former; then evaporate the whole to 2,500 parts. To this add the sugar, so as to form a syrup, and finally incorporate with it the fruit pulps and the powders.

Grisolle's Pills, for Incontinence of Urine.—

Extr. nucis vom. alcoh.	0.25 gm. (4 grains.)
Ferri phosphat. (protoph.)	3.00 " (46 ")
Extr. quassiæ	2.00 " (31 ")
Rad. gentianæ, q. s.	

M. 25 pills.

One pill three times a day, in conjunction with cold hip-bath, and abstention from drink during the evening.

To Restore Faded Writing.—According to E. v. Bibra faded writing, originally written with nut-gall ink, may be restored by brushing over the paper solution of ammonium sulphide, washing off the excess of the latter, and drying at a gentle heat or between folds of blotting paper. The intensity of the black marks, however, is not persisting. Or the writing may be brushed over with a concentrated solution of tannin, washing the excess off with water, at 60–70° C., and drying.

Bossu's Stronger Laxative Mixture.—

Resin of scammony,	
" jalap	āā ½ grain.
Croton oil	2 drops.
White sugar	15 grains.
Mucilage	25 grains.
Orange flower water	4 ʒ
Compound syrup of senna	1 fl. ℥
Peppermint water	3 fl. ℥

The first five ingredients having been properly triturated together and emulsionized, the remainder is added carefully. Dose, one tablespoonful.

Cement for Aquaria, Tanks, etc.—

1. Equal parts of finely powdered pumice stone and powdered shellac—or, in place of the latter, sulphur—are fused together, and the mass is poured, while warm, into the joints. This mass will also cement together articles of glass, wood, or metal.

2. Equal parts of flowers of sulphur, powdered ammonium chloride, and finely sifted iron-filings are mixed with linseed-oil varnish, and enough barytes (barium sulphate) is added to make the mass firm.

NEW PATENTS.

[The following list is compiled from official sources, especially for NEW REMEDIES, *by S. H. Wales & Son, Solicitors of Patents,* 10 *Spruce St., New York, who will furnish gratis to subscribers any information relating to this department.*

LABELS REGISTERED DURING FEBRUARY, 1878.

1,391. "The American Corn, Bunion and Wart Cure." Elbert Bros. & Co., Washington, D. C.
1,392. "French's Freckle Remover." A. S. French, East Hampton, O.
1,394. "Jeffer's French Catarrh Cure." Perley Jeffers, Chicago, Ill.
1,395. "Marshall's Lung Syrup for Cough Colds." Mary W. Marshall, Fond du Lac, Wis.
1,396. "Marshall's Improved Condition Powder for Horses and Cattle." Mary W. Marshall, Fond du Lac, Wis.
1,399. Hoocker's Stomach Bitters." James C. Ferre, Springfield, Mass.
1,400. "Coca Bitters. The Great South American Tonic." Chas. M. Fletcher, New York, N. Y.
1,403. "Shiloh's Belladonna Plaster." Schuyler C. Wells, Le Roy, N. Y.
1,404. "Wood's Saccharine Antiseptic." Mary M. Wood, Brooklyn, N. Y.
1,407. "Oriental Company Family German Soap." Cornwall & Bro., Louisville, Ky.
1,408. Cornwall & Brother's Dixie's Delight." Cornwall & Brother, Louisville, Ky.
1,409. "Cornwall & Brother's National Soap." Cornwall & Brother, Louisville, Ky.
1,410. "Cornwall and Brother Game Soap." Cornwall & Brother, Louisville, Ky.
1,411. "Albion Vegetable Oil Soap." Cornwall & Brother, Louisville, Ky.
1,412. "Cornwall and Brother Bluing Soap." Cornwall & Brother, Louisville, Ky.
1,413. "Blue Bell Cornwall & Brother." Cornwall & Brother, Louisville, Ky.
1,414. "Cornwall & Brother Kentucky Soap." Cornwall & Brother, Louisville, Ky.
1,416. "Witch Hazel Ointment." Benjamin W. Dyer, New York, N. Y.
1,419. "Ricksecker's Bay Rum Shaving Stick." Theodore Ricksecker, New York, N. Y.
1,420. "Ricker's American Face Powder." William B. Ricker & William H. Ricker, New York, N. Y.
1,422. "Wenck's American Cologne." Wenck & Beltor, New York, N. Y.
1,424. "Solidified Glycerine." James R. Gray, Ayer, Mass.
1,425. "Gerard's Preventive." William Gerard, Brooklyn, N. Y.

TRADE MARKS REGISTERED DURING FEBRUARY, 1878.

5,624. John D. McCarthy, Augusta, Ga. The figure of a ladder with a person mounted thereon, holding in his hand a bottle with the word "Triumph" printed on the same.
5,625. William R. Warner & Co., Philadelphia, Pa. The fanciful word "Parvules."
5,647. Chas. M. Fletcher, Brooklyn, N. Y. A circular band, upon which are the words "Atahuallpa Inca," and, within the band, the head of an Indian covered with a circular plume of feathers. At the four opposite sides of the band, projecting outward, are lozenge-shaped figures, simulating, in general effect, a cross, and connected with each other by a wreath of leaves.
5,654. Frederick A. Miller, Philadelphia, Pa. A bull running away, and a man, in ordinary costume, chasing and seizing him by the horns.
5,656. "Romano Vlahov, Sebenico, Dalmatia, Austria." A shield with three crowned leopard heads arranged on the inner field of the same.
5,657. Charles E. Davison, East Boston, Mass. The letters "C E D" in the form of a monogram.
5,659. Enos T. Turey, Camden, N. J. "A portrait of myself."
5,662. Victor E. Manger, New York, N. Y. The word symbol "American."
5,663. Victor E. Manger, New York, N. Y. The letters "A C" in a monogram.
5,687. Joseph C. Richardson, St. Louis, Mo. The design or combination of the retort, shield, monogram, and sprays.

Cosmetics, Soaps, and Perfumery.

5,616. Proctor & Gamble, Cincinnati, O. The word symbol "Amber."
5,626. Justus A. Burnham, Chicago, Ill. A cut representing an urn-shaped vessel, with the words "Milk of Roses" inscribed thereon, the same surrounded by figures of little angels dropping in roses, one of the angels, with pestle, compounding the same, as shown.
5,630. E. W. Hoyt & Co., Lowell, Mass. The symbol of an oblique-angled parallelogram.
5,661. W. A. Hoyt & Co., Boston Mass. The word symbol "New Floral."
5,666. Henry V. Raymond, Brooklyn, N. Y. The word symbol "Marvel."

Miscellaneous.

5,665. James S. Plumb, Syracuse, N. Y. The word symbol "Acetol," and a monogram comprised of the letters "J. S. P."

PATENTS GRANTED DURING FEBRUARY, 1878.

February 5th.

Bottle-stopper, W. H. Kelley	199,980
Carburetter, M. Shea & J. M. Hamilton	200,000
Carburetting apparatus, M. D. Nelon	199,928
Celluloid, manufacturing of sheets of, V. W. Hyatt	199,908
Combs, celluloid, V. W. Hyatt	199,909
Condenser, mercury, C. E. Livermore	200,069
Copper, tinning sheet, R. McManus	200,079
Flask for cooling liquids, A. M. Kloczewski & V. Klobassa	200,065
Furnace, blast and reverberatory, C. Bennett	200,019
Gas, apparatus for manufacturing of, E. J. Jerzmanowski	199,912
Liquid measure, S. 3d & C. F. Rigby	200,091
Ozone generator, A. W. Sangster	199,979

February 12th.

Air-cooling apparatus, R. B. Williamson	200,057
Amalgamator, ore, I. M. Phelps	200,335
Bath apparatus, T. Galbraith	200,275
Bottle-stopper fastener, P. H. Caverly	200,257
Bottle-stopper fastener, C. Sedgewick	200,224
Bottle-stopper fastener, J. B. Griffin	200,191
Filtering apparatus, A. Van Haagen	200,363
Gas, manufacturing, L. A. L. E. P. Dela Peyroure	200,182
Medical compound, A. Owen	200,331
Paint, distemper, G. I. Stevens	200,228
Truss, A. Adamson	200,160
Zinc sulphate, utilizing, C. Fahlberg	200,134

ITEMS.

Massachusetts College of Pharmacy.—The Tenth Annual Commencement of this College was held on the evening of Wednesday, May 1st, in the hall of the Institute of Technology of Boston, where a large number of the friends of the institution were assembled. Among those present were President Runkle of the Institute, Collect-

or Beard, Hon. Charles Theodore Russell and Solomon Carter, Esq. The exercises commenced with music by Higgin's orchestra, after which President S. A. D. Sheppard of the College offered a brief address upon the importance of a pharmaceutical education and requesting the hearty co-operation of every one in the work of the college.

The Secretary of the College, Daniel G. Wilkins, read a list of the graduating class, the members of which ascended the platform and received their diplomas at the hands of the President, who, in his address, paid a tribute of respect to the memory of the late Daniel Henchman, the first President of the College, and the late Ashel Boyden.

The following is a list of the graduates:

Jonathan Marshall Colcord of Boston; Thesis, "Dialyzed iron." Charles Dwight Cooke of Cambridgeport; "Analysis of Damiana." Herbert Augustus Curtis of Allston; "Salicylic Acid." Edmund Culver Danforth of Cambridgeport; "Sodii Sulpho-Carbolas." Frederick Arthur Hartshorn of Woburn; "Saccharated Pepsin." Charles Huestis Hyde of Middlebury, Vt.; "Coffee." Charles Kenneth Short of St. John, N. B.; "Petroleum and some of its Products having Pharmaceutical Interest."

Wm. F. Bolles, M.D., Professor of Materia Medica and Botany in the College, delivered the address to the graduates, and Mr. J. M. Colcord, of the graduating class, the valedictory.

At the conclusion of the valedictory, the audience was dismissed, and the members of the college, together with their ladies and invited guests, repaired to Hotel Brunswick, where they partook of an annual dinner. The company sat down at a quarter-past nine, and devoted themselves for about two hours to the menu. Eighty-eight persons were present. President Sheppard presided and opened the post prandial exercises with a brief speech of welcome. Short and pleasant speeches were made by Collector Beard, President Runkle, Hon. Charles Theodore Russell, H. A. Cassebeer, Secretary of New York College of Pharmacy; Hon Henry B. Peirce, Secretary of State; Dr. Charles H. Spring, Dr. Thomas L. Jenks, S. M. Colcord, Prof. W. P. Bolles, Prof. Markoe, Solomon Carter, W. S. Folger, F. S. Kelly, Oscar Doolittle and Mr. Hartshorn of the class of '78.

American Microscopical Society of the City of New York.—At the Annual Meeting, held Tuesday evening, March 26th, 1878, the following officers were elected for the ensuing year:

President, John B. Rich, M.D., 1 West 38th Street; *Vice-President*, Wm. H. Atkinson, M.D., 41 East 9th Street; *Secretary*, O. G. Mason, Bellevue Hospital; *Treasurer*, T. d'Oremieulx, 7 Winthrop Place; *Curator*, John Frey, Bellevue Hospital.

The Metric System in the Marine Hospital Service.

AN order dated April 27th has been issued by John W. Woodworth, Surgeon General of the Marine Hospital Service, to the following effect:

Medical officers of the Marine Hospital Service will hereafter, for all official, medical, and pharmacal purposes, make use of the Metric System of Weights and Measures. In expressing quantities by weight, the terms "gramme" and "centigramme" only will be used, and in expressing quantities by measure, the term "cubic centimetre." The metric system has already, under the Act of July 28th, 1866, been adopted by this Service for the purveying of medical supplies, and the weights and graduated measures, as well as the glass-ware, hereafter furnished the medical officers, will be in accordance therewith.

Simple rules for the ready conversion of terms of the United States Apothecaries' Weights and Measures into their respective equivalent in metric terms are appended, which, for all medical and pharmacal purposes, are believed to afford sufficiently accurate results. Suggestions are also given as to the mode in which metric medical prescriptions might be constructed, and in relation to the preparation of requisitions for medical supplies in metric terms.

Accompanying the order, the following rules are given for the ready conversion of the expression of quantities of one system into the terms of the other.

1.—TO EXPRESS QUANTITIES BY WEIGHT OF THE APOTHECARIES' SYSTEM IN METRIC TERMS, OR TO WRITE MEDICAL PRESCRIPTIONS IN METRIC WEIGHTS.

RULE A.—*Reduce each quantity to grains; then divide the number by* 10 (or move the decimal point one place to the left) *and from the quotient subtract one-third.* The remainder is in each case the number of grammes representing (nearly) the same quantity. Or,

RULE B.—*Reduce each quantity to drachms and multiply the number by* 4. The product is in each case the number of grammes representing (nearly) the same quantity. Or,

RULE C.—*Reduce each quantity to ounces, and multiply the number by* 32. The product is in each case the number of grammes representing (nearly) the same quantity.

2.—TO EXPRESS QUANTITIES BY MEASURE OF THE APOTHECARIES' SYSTEM IN METRIC TERMS, OR TO WRITE MEDICAL PRESCRIPTIONS IN METRIC CUBIC MEASURES.

RULE D. *Reduce each quantity to minims; then divide the number by* 10 (or move the decimal point one place to the left), *and from the quotient subtract one third.* The remainder is in each case the number of cubic centimetres representing (nearly) the same quantity. Or,

RULE E.—*Reduce each quantity to fluid-drachms, and multiply the number by* 4. The product is in each case the number of cubic centimetres representing (nearly) the same quantity. Or,

RULE F.—*Reduce each quantity to fluid-ounces, and multiply the number by* 32. The product is in each case the number of cubic centimetres representing (nearly) the same quantity.

In addition to the above rules, the following suggestion is offered:

In applying the foregoing rules for writing prescriptions, the metric quantities should be adjusted so as to be expressed in as simple decimal terms as may be practicable, without materially changing the dose or the character of the formula.

The terms "gramme" and "cubic centimetre" might be abbreviated "*Gm.*" and "*C.C.*" To preclude the possibility (in *careless* writing), however, of mistaking the sign *Gm.* (gramme) for the sign "gr." (grain), the number should invariably precede the sign, using the common Arabic numerals. Thus, while ten grains is always written "gr. x." (Roman numerals being used), ten grammes would be written "10 *Gm.*" When the term "centigramme" is used, it should be spelled out in full. Ten centigrammes might, however, more conveniently be written "0.10 *Gm.*" than "10 centigrammes.' In writing, the abbreviated metric denominations should always be underscored; but the preceding number should not, as above.

Guiseppe Tagliabue, late of this city, the well-known maker of hydrometers, thermometers, barometers, etc., died on the 7th inst. at Mount Vernon, where he resided. He was born in 1812 near Como, Italy, and when very young went to London, and served a long apprenticeship with his brother Giovanni, a noted maker of scientific instruments. Forty-four years ago he came to this country, and started in business in Pearl St., in this city. He became one of the most prominent and successful instrument-makers in this country. His hydrometer was adopted by the United States Revenue Department, for the proving of whiskey, in preference to all others. Mr. Tagliabue constructed many instruments used by the United States Coast Survey, and Professor J. E. Hilgard (who has charge of such matters) regarded them as the best of their kind. Several of the self-recording instruments in use at the Central Park Meteorological Observatory, which were invented by Dr. Daniel Draper, were constructed by Mr. Tagliabue, and perform their delicate services with great accuracy. Mr. Tagliabue was very enthusiastic in his work, and cared far more for the excellence of his instruments than for the money which he received for them. He showed a loving pride in the merit of his inventions. He had many amiable qualities, and was greatly esteemed by those who knew him. He was benevolent in disposition, and liberal in charitable deeds.